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ABSTRACT

This study reports the findings of a 1971 assessment of the reading achievement of 22,000 sixth grade students in Texas. The study used the Prescriptive Reading Test (PRT) and a Pupil Identification Form (PID). Results from the PRT are reported in terms of the percentage of pupils who achieved each of 48 reading objectives. Nineteen objectives were selected as representative and the items for measuring the achievement of these objectives are discussed in detail in this report. Pupils' performance on each of the 48 objectives were analyzed in terms of pupil characteristics obtained through the PID. The report contains chapters discussing (1) the procedures of the assessment, (2) basic learner objectives, (3) the results on a representative group of objectives, (4) a summary of findings, (5) the use of assessment information, and (6) an evaluation of the assessment. Appendixes are included. (DI)

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SIXTH GRADE READING

A NEEDS ASSESSMENT REPORT

Texas Education Agency

Austin, Texas 1972

CS 000 551

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FOREWORD

As a part of its continuing effort to assess the educational needs of Texas pupils, the Texas Education Agency tested over 22,000 sixth graders with criterion-referenced mathematics and reading tests in the fall of 1971. Although assessment information was obtained on regional and state bases, a major purpose of this activity was to provide classroom teachers with information on individual students which could facilitate instructional planning.

This study and the resulting reports will be evaluated in terms of their usefulness in assisting educational leaders in improving the quality of Texas elementary and secondary public schools.

If you have questions about the study or desire further clarification on some feature of this report, please contact

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ACKNOWLEDGEMENTS

Virtually all of the schools invited to participate in this assessment study agreed to take part. This cooperation permitted the sample pupil population to be very close to that projected in the sampling plan as being representative of each education service center (ESC) region and the state.

Credit for the successful completion of this study can be attributed to the assistance of the ESC and school personnel. The staffs from participating schools undertook the tasks of administering the assessment instruments and returning them for scoring, and the ESC guidance coordinators devoted a large amount of their time to serving as liaison between participating schools and the Texas Education Agency. The interest and enthusiasm of the staff of CTB/McGraw-Hill, Inc. in revising and developing instruments for this assessment was also an important contribution to the study.

A final word of thanks should be expressed to the various educators who served on different panels for the reading assessment. Two different groups assisted with the review of the reading objectives to determine the "basic" objectives described in the report. Also, a third panel reviewed the preliminary text of this report and provided many helpful suggestions for revisions.

ABSTRACT

The Prescriptive Reading Test (PRT)--Texas Edition and a Pupil Identification Form (PID) were administered to 22,092 pupils enrolled, at the sixth-grade level, on a representative sample of Texas campuses in the fall of 1971.

Results from the PRT are reported in terms of the percentage of pupils who achieved each of 48 reading objectives that were measured. The PID asked each pupil to indicate his sex and ethnicity, to respond to several items regarding the educational emphasis of his home, and to indicate whether he feels he is good in arithmetic and whether he feels he is good in reading.

Panels of reading teachers and of reading experts were asked, independently, to rate the objectives as "basic" or as "desirable"; the 29 objectives selected as "basic" are presented in the report.

Since presentation of the items used as the measure of achievement for each of the 48 objectives would be voluminous, just 19 objectives selected as representative and the items for measuring the achievement of each objective are discussed in detail in this report.

The pupils' performances on each of the 48 objectives of the PRT were analyzed on the basis of pupil characteristics (obtained through the PID) and according to the characteristics of the campuses on which the pupils were enrolled.

Wide variations in achievement were found among the objectives; one objective was achieved by only 7% of the pupils, but two objectives were achieved by 81% of the pupils. Slightly over half the objectives were achieved by at least half the pupils.

On each objective, wide variations in performance were found among pupils of various ethnic groups, among pupils from campuses serving communities of various sizes and types, and between pupils from homes having high and low educational emphasis. On all of the objectives the "Others" (primarily Anglo) performed better than the Mexican Americans, who in turn performed better than the Black pupils. On almost half of the objectives, the percentage of achieving "Others" was at

least double the percentage of achieving Blacks. The general pattern was for pupils on campuses serving suburban communities to have the highest percentage of achievers, followed in order by those on campuses serving cities of less than 200,000 population, rural areas, cities of 200,000-500,000 population, and cities of over 500,000 population. Pupils on campuses not participating in Title I, Elementary and Secondary Education Act, evidenced only a slightly, but consistently, superior performance on the objectives. On most of the objectives the girls had a higher percentage of achievers than the boys. Interesting departures from the predominant performance patterns described were found in the case of some objectives.

Chapter VI describes possible uses of the report. The percentage of pupils who should be able to give the correct response was not established for each objective. The causes underlying high or low performances on the objectives were not identified. The report is an assessment of the status of pupils at the beginning of the sixth grade. The report should not be construed as an evaluation of the effectiveness of sixth-grade instruction nor should the pupil categories by which data is reported be regarded as "causes" of high or low performance.

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I. INTRODUCTION

The 1971 Texas Assessment of Reading and Mathematics is one of a series of assessment studies being conducted by the Texas Education Agency with the cooperation of regional education service centers and schools. These studies are a part of the Long-Range Plan for Needs Assessment (see Appendix A) in Texas that has the purpose of establishing the status of students in reference to the Goals for Public School Education in Texas.

After consultation with various groups of educators, reading and mathematics were chosen as priority areas of concern in which to determine the relationship between the students' status and the Goals.

RATIONALE

Developing the competencies of students in reading and mathematics has long been a goal of all public schools because student mastery of skills and concepts in these two areas is considered a prerequisite for attaining other student development goals. Little information about student performances in relation to specific reading and mathematics skills and concepts has been made available to curriculum planners at the local, regional, or state levels.

This study also provides evaluative information about reading objectives that can be considered "basic" for students to master in order to function in society, as distinguished from those objectives that are "desirable" for some students to master.

OBJECTIVES

The objectives for the 1971 Texas Assessment of Reading and Mathematics follow:

- To provide educators in participating schools useful information about the performances of their pupils relative to specific skills and concepts in reading and mathematics. The degree to which this objective is met will be determined

through the use of questionnaires presented to school personnel.

- To develop through the use of criterion-referenced testing a more universal understanding of, and a positive attitude toward, the use of this diagnostic and prescriptive information with students. Evaluation of the accomplishment of this objective will be measured through the use of questionnaires sent to teachers.

- To develop sets of basic objectives for the areas of reading and mathematics that will be useful for program planners and can serve as benchmarks for later assessments. The degree to which this objective is accomplished will be determined by surveying educational planners.

- To furnish regional education service center (ESC) personnel with summary information about the performances of pupils in their regions relative to specific skills and concepts in reading and mathematics. The usefulness of this information will be determined from personal interviews with ESC personnel.

- To furnish Texas Education Agency personnel with state summary information about the performance of pupils on a selected set of reading and mathematics objectives. The usefulness of the state summary information for Agency divisions will be evaluated through structured interviews with staff members within the divisions.

- To disseminate information from the assessment that will be useful for

  .. pre-service and in-service teacher education programs

  .. up-dating educational programs for reading and mathematics including programs for different population groups

.. planning programs to alleviate educational needs.

Follow-up evaluation forms will be used to determine whether the assessment reports have reached appropriate audiences, and if so, how the information is used.

II. PROCEDURES

DECISIONS ABOUT THE NATURE OF THE ASSESSMENT

Pilot study - During the spring of 1971, a pilot study was conducted in one region of Texas to determine whether or not the proposed reading and mathematics assessment instruments would yield results that were useful to teachers for the classroom instruction of pupils. Also considered was whether results from these same instruments would produce information that could be used by personnel in regional education service centers and the Texas Education Agency. The pilot study was used to evaluate the methods of communicating about assessment information, delivering assessment materials, and returning test results to schools. Teachers in the schools that participated in the pilot study were surveyed to determine their perceptions about the assessment results and the usefulness of the information they received from the tests for classroom planning.

An evaluation of the methods and instruments used for conducting the pilot study and the survey about the usefulness of test results for classroom instruction showed some changes should be made for the statewide assessment. Two major alterations were made. A criterion-referenced reading test was developed for the statewide project since the standardized diagnostic reading test did not yield enough information about pupil mastery of specific skills and concepts. A grade level instead of an age group of students to be assessed was selected because most schools have students grouped by grades.

Students to be assessed - The students that would participate in the assessment project would be those at the sixth-grade level. This level of the pupils' educational experience was chosen for assessment because at this point in the pupils' progress through school they would have been exposed to most of the basic skills and the usual tendency for some students to drop out of school would not have begun. It was assumed, then, that by assessing the performances of sixth graders a better representation of pupil performances would be obtained.

Developing an assessment sample - The Texas Education Agency wanted the information that was collected to serve a dual role of assisting in instruction in the classroom as well as providing a statewide assessment. The sampling procedure chosen was that of selecting a sample of schools representative of the state and then assessing the total sixth-grade population in these schools.

Selection of assessment instruments - Part of the rationale for conducting the assessment was to determine pupil performances in relation to a common set of specific objectives for both of the areas of reading and mathematics. It was decided that the information from a testing program that reported results in terms of a comparison of pupils would not provide enough specific information for curriculum planners to use in renewing or developing programs. As a result, criterion-referenced test instruments were chosen for the study because this type of testing is designed to measure the relationship between stated objectives and student mastery of these objectives. In order to gather additional information about students that could be combined with the students' test scores for further analysis of the assessment results at the state level, a one-page questionnaire was developed to be administered with the test instruments.

Administration of assessment instruments - The test instruments and one-page questionnaire were administered by the staff of each school that participated in the assessment study. No special arrangements were made by the staff of the regional education service centers or the Texas Education Agency to administer the tests in schools. Since the tests were designed as "power tests" (tests to measure a level of performance unaffected by the speed of response so no time limit is imposed), it was recommended, at pretest workshops and in literature sent to schools, that the tests be administered during the regular class time scheduled for reading.

Selection of reading objectives - It is impossible to assess the performance of students in every skill or concept areas for reading, so a selection procedure was used. The objectives for reading were chosen from the major skill or concept areas treated in the state-adopted textbooks. The textbook analysis and objective writing tasks were performed by the test contractor. These objectives were then reviewed by the reading consultants at the Texas Education Agency and adapted

for use in this assessment study. In addition, in order to gain further insight about the objectives, it was decided to start to develop a listing of objectives for the area of reading that could be considered to be "basic" or "desirable" that could be used in later assessments and that would be useful for the development of objectives under the Goals for Public School Education in Texas (see Part III - Basic Learner Objectives).

THE ASSESSMENT INSTRUMENTS

The Prescriptive Reading Test-Texas (PRT-Texas) - The criterion-referenced reading test used was developed specifically for this assessment and is not available commercially. Staff members in the Texas Education Agency prepared an outline suggesting reading skills and concepts that should be included in the test; CTB/McGraw-Hill contracted to produce the criterion-referenced reading test from these suggestions. The objectives for this test were derived from an analysis of the reading textbook series provided to schools by the state. The test that was produced is designed to measure mastery of reading skills and concepts usually taught in classroom instruction until the beginning of the sixth-grade level. The PRT-Texas was made up of 209 items designed to measure student mastery of 49 objectives in eight general reading areas. Since the responses to the PRT-Texas test items are chosen from multiple-choice options, a criterion based on the correct responses to a specific number of items was developed in order for students to prove mastery of each objective (i.e., in order to receive credit for mastery of the reading objective - the ability to combine words to make compounds the student had to respond correctly to three of four items). This test was administered to 22,092 sixth-grade students. The PRT-Texas was designed as a power test with no specific time limit, to be administered in the students' regular reading classroom.

The Pupil Identification Form (PID) - A one-page form developed by the Texas Education Agency was used in this study in order to gather additional demographic data about students that were not requested in personal data sections of the test. Also, the PID included some perceptional questions for students to answer. The information collected through this form was combined with the students' test scores to provide additional variables for the analysis of the assessment data. Through

use of the PID, the Migrant Education Section and the Special Education Division of the Agency were able to gather some information about students in the assessment enrolled in their programs. Some of the results from questions asked on the PID have not been reported separately but were combined to form an Educational Emphasis Index. The teachers were asked to verify the students' responses to the ethnicity, migrant program, and special education program questions, but were not asked to check the other questions about student perceptions. (A PID form is shown in Appendix B.)

SAMPLING

The desired sample of campuses was to be representative of the Texas campuses which offered instruction at the sixth-grade level. All pupils to whom instruction in reading and/or mathematics was given at the sixth-grade level on the selected campuses were to be tested.

The statewide sample of campuses was to consist of 20 subsamples, one for each of the 20 education service center regions of the state. Each of the 20 regional samples was to contain approximately

- 10% of the campuses in the region
- 10% of the sixth-grade pupils in the region
- the same pupil ethnic distribution as the region
- the same proportions as the region of campuses from large cities, small cities, towns, suburbs, and rural areas, and
- the same proportion of campuses participating in Title I as in the region.

Procedures for sampling - A list, by education service center region, was obtained of all Texas campuses which enrolled pupils, in the fall of 1970, at the sixth-grade level. The campuses of each of the 20 education service center regions were formed into 10 strata on the basis of (1) the size and type of community in which the campus is located, and (2) whether or not the campus participated in a Title I, ESEA,

program during the last school year. The size-and-type of community strata, a collapsing of the categories used in the USOE Program Reference File for the 1970-71 school year, were

- located in a city of over 200,000 population
- located in a city having between 50,000 and 200,000 population
- located in a town having less than 50,000 population
- located in a suburb of a city having over 50,000 population
- located in a rural area.

For each of the 20 ESC regions independently, every tenth campus from a random start was selected from each of the 10 strata. The process of stratified random sampling did not, for some ESC regions, yield a list of campuses whose sixth-grade pupils constituted approximately 10% of the sixth-grade pupils of their region, nor did it approximate the sixth-grade ethnic distribution of their region. Minimal substitutions of campuses within the region were made until

- at least 8% but not more than 12% of the sixth-grade pupils of the region were on the selected campuses, and
- the percentage which each ethnic group constituted of the selected campuses was within 5 points of the percentage which each ethnic group constituted of the regional population of sixth graders.

The obtained sample - The regional test coordinators were very effective in obtaining the cooperation of the administrators of the selected schools. Awareness of the biasing effect upon the sample of substitutions led to almost all of the selected campuses administering the tests to their sixth-grade pupils. The departures were limited to loss of two campuses and to nine substitutions (most of which involved very small sixth-grade enrollments). Approximately 10% of the Texas campuses teaching at the sixth-grade level administered the PRT.

Table A shows the number of campuses on which the PRT was administered to pupils at the sixth-grade level and the number of pupils from whom PRT records were obtained. The table provides a breakdown by the size-and-type of community in which the campuses are located and indicates participation of campuses in Title I, ESEA. As shown in Appendix C, the sample closely represents the distribution of campuses and pupils in the state. Of the 22,092 respondents to the PRT, 49% were enrolled on Title I campuses.

TABLE A: Campuses Administering and Pupils Responding to the PRT, by Size and Type of Community

Size and type of community	Number		
	Campuses		Pupils
	Title I	Non-Title I	
Large City (over 200,000)	18	39	6604
Small City (50,000-200,000)	16	18	3118
Town (less than 50,000)	53	23	7647
Suburb	6	11	2541
Rural Area	49	11	2182
All	142	102	22092

Table B provides a comparison of the ethnic distribution of the PRT respondents with that of all Texas pupils at the sixth-grade level. The percentage of Black respondents to the PRT is slightly higher than the percentage of Black enrollment at the sixth-grade level.

TABLE B: Ethnic Distribution of Respondents to the PRT and of State Enrollment at the Sixth-Grade Level

	Black	Mexican American/Spanish Surnamed	Other(Anglo,Oriental and American Indian)	Unknown
Respondents to the PRT	16.4%	20.4%	58.8%	4.4%
State enrollment at the sixth-grade level	14.8%	21.5%	63.7%	-0-

ANALYSIS OF THE ASSESSMENT DATA

Reporting results from criterion-referenced tests - Criterion-referenced tests are developed for the distinct purpose of determining the relationship between performance and objective. They are not normed tests so the usual reporting of results in reference to a population based on a "normal curve" is not relevant. Consequently, statistical terms that are often used to report results--such as stanines, percentile ranks, and other kinds of standard scores--cannot be used with the results from criterion-referenced tests. Group results derived from this type of testing procedure are usually reported in terms of the percentage of persons mastering the objective.

Reports furnished to schools that participated in this study - To provide useful information about students for classroom instructional purposes, each school that participated in this assessment was furnished with the following kinds of reports for reading.

- Individual student reports:
  - A report for each student to show his status in relation to the reading objectives was prepared for the teacher and student.
  - Another individual report grouped the objectives that the student did not master and gave page references in the textbook or workbook that might assist the student in gaining mastery of the objective.
- Group reports of student test results:
  - A school report that showed the percentages of sixth graders in the school who mastered each reading objective was provided.
  - A class report was made for each teacher which gave the class percentage of pupils who mastered each objective.
  - Also provided was a report that grouped the students in each class by the objectives

that their test performances indicated the students were having difficulty in mastering, and also gave pertinent page numbers in the textbook and workbook to assist the pupils with instruction in mastery of these objectives.

- Master Reference Guide:

  Each teacher was asked to furnish the name of the textbook that the school adopted from the state list that was used with the class. The teachers later received a guide that listed each reading objective with page references from the textbook that they listed. Master Reference Guides for the fourth-and fifth-grade levels for the same series of textbook as listed by the teacher were also made available.

REPORTING THE STATEWIDE DATA

The results used for this report were derived from information supplied by the testing company and from additional analysis of the data done by the Texas Education Agency. The information furnished by the test contractor was compiled through totaling the results from the sample of schools into regional grouping and then summing the 20 regional groups for the state results. These results included a state percentage of students who had mastered each reading objective and separate reports for each item on the Pupil Identification Form giving the percentages of mastery in relation to the students' responses on this form. The following is a brief description of the analysis plan followed by the Agency.

Analysis plan - This study was not designed to identify the factors underlying pupil performance. The analyses do, however, compare the performance status of

- male and female pupils
- Black, Mexican American, and Other (includes Anglo, Oriental, and American Indian) pupils

- pupils enrolled on campuses serving various sizes and types of communities: cities of over 500,000 population, cities of 200,000 to 500,000 population, cities of less than 200,000 population, suburban communities, and rural areas.

- pupils enrolled on campuses receiving and not receiving funds from Title I, ESEA,

- pupils who gave "Yes" and "No" responses to the PID question "Am I a good reader?"

- pupils who gave "Yes" and "No" responses to the PID question "Am I good in arithmetic?"

- pupils who obtained a high rating and pupils who obtained a low rating on an Education Emphasis Index (described in the next sub-section).

The information used for establishing these categories came from the Pupil Identification Form, from demographic items asked at the beginning of the test instruments, and from the test results. The results from the migrant program question on the Pupil Identification Form did not provide enough cases to form a basis for comparison, and the question asking students about special education programs did not make enough distinctions among the types of programs.

The Educational Emphasis Index - Student responses to a series of questions asked on the Pupil Identification Form were used to establish an "educational emphasis of the home" index. This index was formed to study certain factors presented by the pupils' background. Four questions from the Pupil Identification Form were used to compile the Educational Emphasis Index and arbitrary weights were assigned for each response to the questions.

TABLE C: Questions from the Pupil Identification Form Used for Compiling the Educational Emphasis Index and the Weights Assigned to Responses

Question Number, and Question	Weight of Response
4. Outside of school, how long do I usually watch TV on each school day?	
(1) None	0
(2) 1 or 2 hours	1
(3) 3 or 4 hours	2
(4) 5 or 6 hours	1
(5) more than 6 hours	0
7. Do I read books for fun, even when they are not for school?	
(1) No	0
(2) Yes	2
8. How many books do we have at home?	
(1) We have no encyclopedias and less than 25 other books.	0
(2) We have no encyclopedias but we have 25 or more other books.	1
(3) We have some encyclopedias and less than 25 other books.	1
(4) We have some encyclopedias and 25 or more other books.	2
9. Do we get a daily newspaper, or magazines in the mail?	
(1) We get no newspapers and no magazines.	0
(2) We get no newspapers, but we get magazines.	2
(3) We get no magazines, but we get a daily newspaper.	2
(4) We get magazines and daily newspaper.	4

The responses of students to these questions were summed according to the weights assigned for the responses. After listing the possible response scores on a continuum that ranged from a high of 10 to a low of 0, the number of students having each response score was compiled. The 15% of the students having the highest response scores was used to

establish the "high educational emphasis" group and the corresponding percentage of students having the lowest response scores was used in establishing the "low educational emphasis" group.

SELECTING REPRESENTATIVE OBJECTIVES FOR REPORTING

Presenting an analysis of pupil performance on each of the objectives would cause this report to be too lengthy. A group of objectives representative of the total set of objectives for reading was selected. The objectives that were selected are discussed in Part IV - Results on a Representative Group of Objectives.

In order to ensure the representativeness of the objectives, certain procedures were followed. These procedures involved the use of some mathematical formulas to establish the sensitivity of each objective to the analysis categories used in this report. The term "sensitivity" is used here to mean the extent to which performances on each objective vary among the categories of the analysis plan, e.g., ethnicity. The objectives were ordered from least sensitive to most sensitive. (See Appendix D for an explanation of procedures.)

It was decided that 40 percent of the reading objectives would be selected. In order to achieve a balanced sampling, the listing of objectives under general areas was used and each objective was identified as either being "basic" or "desirable." (See Part III of this report.) The sample selected was to represent approximately the same ratio of objectives by general areas and by whether they were "basic" or "desirable" as in the total objectives used for the assessment study.

The reading objectives were blocked into groups of two's and three's according to the order of their sensitivity to provide a 40 percent sample. This process resulted in 19 groups and one objective chosen from each group. This objective was chosen through consideration of the general area of reading it represented and whether it was "basic" or "desirable."

The relationship between all 48[1] measured objectives and the sample of 19 objectives can be seen, with respect to performances of ethnic groups, in Table D.

TABLE D: Number of PRT Objectives in each Percentage Category of Mastery

Percent of Mastery	Black		Mexican American		Other(Anglo, Oriental, American Indian)	
	All Objs.**	* Repr. Objs.	All Objs.	Repr. Objs.	All Objs.	Repr. Objs.
75-99%	0	0	1	0	12	5
50-74	7	4	13	7	20	9
25-49	25	10	23	8	13	3
0-24	16	5	11	4	3	2

* Repr. - abbreviation for representative
** Objs. - abbreviation for objective

[1] Because of errors in one set of test items, pupil performances are not reported for one of the 49 reading objectives used in this assessment study.

III. BASIC LEARNER OBJECTIVES

One portion of the 1971 Texas Assessment Project was devoted to investigations to determine basic objectives for the area of reading. The purpose of the studies was to isolate a group of objectives that were relevant to the curriculum in most schools and would be accepted as a kind of minimum standard for being able to function in society. The information about basic objectives and the status of the pupils in relation to these objectives can be used as benchmarks for planning at the local, regional, and state levels.

PROCEDURES FOR SELECTING OBJECTIVES

To determine the basic objectives for reading, it was decided early in the assessment project to use the list of objectives that had been developed for the Prescriptive Reading Test-Texas (PRT) as the master list. These objectives were selected because they were written in measurable terms and they included a cross-section of the reading curriculum content at the sixth-grade level that is taught in Texas schools.

The PRT list of objectives was organized into a questionnaire format so that each objective could be rated. The options given for persons to consider in rating each objective were "basic" (meaning mastery of the objective was basic for functional literacy) or "desirable" (meaning mastery of the objective might be desirable for continuing in education but not basic for functional literacy). Also, directions given on the questionnaires for the raters explained that the objectives were derived from reading skills and concepts that were usually covered by classroom instruction in grades one through six.

Forms of this questionnaire were disseminated to two selected groups of educators. One group consisted of sixth-grade teachers who attended a series of post-test workshops held for teachers from schools which had participated in the assessment project. This group of teachers received one page of objectives to rate. The pages were then compiled to obtain a total rating of the objectives by the group. The second group was composed of reading experts, including supervisors, curriculum specialists, university professors, and other reading teachers from schools not participating in the assessment.

Members of this group were selected by the staff of the Division of Program Development in the Texas Education Agency. The group of reading experts received the total list of objectives for their review and opinions.

The ratings of each group were compiled separately and then the objectives rated basic by each group were compared to determine those rated basic by the majority of both groups. Twenty-nine of the 49 reading objectives listed for the PRT were placed in the basic category by both the reading teachers and experts. In addition to the objectives about which there was a consensus, the reading experts identified two more objectives as "basic"; the reading teachers rated an additional eight objectives as "basic". In all, ten of the 49 objectives were rated "desirable" by both the reading experts and teachers.

In reviewing the two objectives identified as "basic" by the reading experts but not by the teachers, one was in the area of critical comprehension (recognizing propaganda) and the other was in the area of study skills (use of the card catalogue). Of the eight objectives identified as "basic" by the reading teachers but not by the experts, one was in the area of interpretive comprehension (anticipate actions), two were in structural analysis (define affixes and capitalization), one was in critical comprehension (compare/contrast), and four involved study skills (analogy, dictionary, diacritical marks, and guide words).

The difference between the two groups can perhaps be attributed to the differing perspectives of the groups. The teachers might have been more inclined towards considering objectives "basic" in reference to what is taught at the sixth-grade level. The reading experts probably looked at the objectives from a broader frame of reference and paid more attention to what they thought would be "basic" for all students and were less cognizant of what was taught at the sixth-grade level.

RESULTS

The remainder of this section contains a summary of the basic objectives that were selected by either the reading teachers or experts, or both. These objectives will be discussed

under the general headings of the area of reading to which they relate. Also, the percentage of sixth graders in the assessment that mastered each objective will be presented and stated in parentheses beside each objective. Appendix E lists each of the PRT objectives and gives the results (most frequent rating) for each group of reviewers as well as the percentage of sixth graders who mastered the objective.

Phonic analysis - The sixth-grade students were asked to respond to test items which measured seven specific objectives on phonic analysis. Both the reading teachers and experts rated six of these as basic.

- Identify and discriminate between all the sounds of the same vowel. (Vowel Sounds) (31%)
- Divide or indicate the number of syllables in words of one or more (up to five) syllables. (Syllables) (43%)
- Identify or classify printed words that are spelled phonetically -- vowel sounds: long, short, r-controlled. (Phonic Spelling) (43%)
- Discriminate among the sounds of a given vowel digraph or diphthong. (Vowel Digraphs) (55%)
- Select or present examples of repeated initial consonant sounds. (Alliteration) (64%)
- Use knowledge of consonant blends and digraphs to unlock new words and to complete sentences. (Consonant Blends) (78%)

Structural analysis - Of the six objectives dealing with structural analysis, three were considered to be basic reading objectives by both the reading experts and teachers.

- Identify the complete sentences from a list of sentences and sentence fragments. (Sentence Fragments) (31%)

- Add the appropriate affix to a word to complete a sentence. (Add Affixes) (67%)

- Combine words to make compounds. (Compounds) (76%)

The students' performances on two additional objectives rated basic by the reading teachers were as follows:

- Define affixes and endings. (Define Affixes) (29%)

- Recognize the use of capitalization for emphasis. (Capitalization) (61%)

Translation - Two of the objectives on translation were rated by the reading teachers and experts as being basic.

- Given two sentences, tell whether they say the same thing or something different. (Word and Sentences/Relationship) (50%)

- Explain the meaning of a word in the context of a given sentence or paragraph. (Word Meaning/Context) (81%)

Teachers, but not the experts, also rated the following as basic:

- Select from the list the word that could be used as a synonym for the underlined word or for a word in the list. (Synonyms) (56%)

Literal comprehension - The following three objectives on literal comprehension were also rated as basic by the two review panels:

. Recall facts, details, and descriptions from stories by identifying true statements. (True Statements)	(36%)
. Recall facts, details, and descriptions from stories by underlining words or sentences containing information related to a story. (Related Information)	(40%)
. Perceive the sequence of events and ideas in reading matter by indicating between which events other events occurred. (Sequence)	(62%)

Interpretive Comprehension - The students were tested on nine objectives dealing with interpretive comprehension; these were: idioms, figures of speech, similes, metaphors, draw conclusions, reasons and conclusions, anticipate actions, best title, and best summary. The six objectives which were considered basic by both the reading experts and reading teachers are

. Show recognition of the main idea by choosing or identifying the key sentence to which other sentences of a given paragraph refer. (Key Sentence)	(7%)
. Show recognition of main ideas of a passage or story by choosing a summary or statement that best represents it. (Best Summary)	(32%)
. Show recognition of main ideas by choosing or matching a title to reading material. (Best Title)	(36%)
. Draw logical conclusions by choosing the best of given conclusions. (Draw Conclusions)	(43%)

- Show recognition of inferences and conclusions by identifying clues leading to them. (Reasons and Conclusions) (67%)

- Anticipate or predict probable future actions or outcomes from story material by answering questions or completing sentences. (Anticipate Actions) (60%)

Critical comprehension - Both reading panels agreed that only two of the six objectives in critical comprehension were basic at the sixth-grade level. The two consensus objectives are

- Distinguish between facts and opinions in given written material. (Facts/Opinions) (51%)

- Distinguish between real and make-believe by identifying elements in a story that could be true. (Real/Make-believe) (27%)

Only the reading teachers selected the following objective as being basic:

- Compare stories by noting the similarities in two given stories. (Compare/Contrast) (57%)

Only the reading experts rated the objective on propaganda as being basic.

- Identify an author's attempts to sway the reader to a particular point of view. (Propaganda) (42%)

Study skills - The following study skill objectives were rated as basic by both the reading teachers and experts:

- Locate the page on which specified information can be found in an index. (Index) (74%)
- Indicate in which of several sources of information (e.g., almanac, dictionary, or encyclopedia) to look to find the answers to given questions. (Sources of Information) (72%)
- Use a table of contents to determine if specified information is contained in a book. (Table of Contents) *
- Locate given places and routes on a given map. (Map-reading) (70%)
- Indicate the kind of information that would be provided by a map. (Map Choice) (56%)
- Indicate in which volume of an encyclopedia specific topics can be located. (Encyclopedia) (53%)
- Indicate the main topic or key word that tells where to locate information in sentences. (Key Word) (29%)

The reading teachers rated four additional objectives as basic. These dealt with analogy, dictionary, diacritical marks, and guide words.

- Select from a given list the guide words appropriate for a given set of three words. (Guide Words) (13%)
- Answer given questions about a given page in the dictionary (e.g., specify the number of one-syllable words). (Dictionary) (14%)
- Use diacritical marks to indicate long, short, and silent vowels. (Diacritical Marks) (49%)
- Select from given words the correct words to complete a given analogy. (Analogy) (77%)

*Test items did not measure the objective.

The reading experts identified only one additional study skill objective as being basic at the sixth-grade level. This objective dealt with the use of a card catalogue.

. Use the card catalogue by locating a specific card and answering questions about the information on the card. (Card Catalogue) (73%)

The study skills on the usefulness of information and the ability to read footnotes were not considered as basic objectives at the sixth-grade level.

IV. RESULTS ON A REPRESENTATIVE GROUP OF OBJECTIVES

For this part of the report, a sample of objectives from the total group used with the Prescriptive Reading Test-Texas was chosen to facilitate discussion of the objectives in some depth and to provide illustrations on analyses that can be used by educators to investigate the results from criterion-referenced information. The procedures that were used to make these selections are described in Part II and in Appendix D. The percentages of pupils mastering each of the objectives used for this assessment are given in Appendices E and F.

THE SELECTED OBJECTIVES

In this section each of the selected objectives is stated beneath the general reading category listings.

Explanation of information provided with each objective

- The number to the left of each objective signified where it can be located in the total list of objectives.
- An asterisk by the side of the number indicates that the objective was selected as being basic by the review groups.
- The portion of the total group of sixth-grade students that mastered the objective is given.
- An illustration of what was used to measure mastery of each objective is given. (Items are copyrighted by CTB/McGraw-Hill, Inc., and cannot be reproduced without the permission of the publisher.)

Phonic Analysis

1*	Alliteration:	The student will demonstrate ability in phonic analysis by selecting or presenting examples of repeated initial consonant sounds.

Sixty-four percent of the pupils mastered this objective. The students were asked to select words which began with the same sounds as center, spring, and jar.

6* Syllables:	The students will demonstrate ability in phonic analysis by dividing or indicating the number of syllables in words of one or more (up to five) syllables.

Approximately 2/5 of the sixth-grade pupils tested had indicated the correct way to divide into syllables the following words: ancestor, carpenter, and beginning.

Structural Analysis

10* Compounds:	The student will combine words to make compounds.

Three-fourths of the pupils were able to make compound words with the words school, short, flash, and birth by adding other words to them (which were provided in a separate list).

Example: Flash

- man
- cork
- light
- flame
- plug

11 Capitalization:	The student will recognize the use of capitalization for emphasis.

More than 3/5 of the pupils recognized the special meaning of capitalized words in the following sentences:

- "STOP THAT AT ONCE!"
- "HELP! I'M FALLING, the voice echoed."
- "NEXT! the impatient barber barked."

12	Italics:	The student will recognize the use of italics for thought and emphasis.

Fifty-eight percent of the pupils recognized the use of italics in the following sentences:

- "Crash! Something hit Alan, something big, hard, and heavy."
- "That crazy driver! Jim jumped back from the road, shook his fist, and trembled all over."
- "I am not going with you."
- "Are you taking that car?"

Translation

14*	Word Meaning/Context:	Given a sentence or paragraph with an underlined word, the student will use context to explain the meaning of the word.

Four-fifths of the pupils could explain what the underlined word meant in the following sentences:

- "When Bob put his ear to the ground, he could hear the horse galloping toward him."
- "Our new herd is in the south pasture."
- "The Tigers' second baseman can field the ball very well."
- "At what point in your life did you decide to become an engineer?"

Literal Comprehension

17*	Sequence:	The student will demonstrate ability to perceive the sequence of events and ideas in reading matter by indicating between which events other events occurred.

After reading four separate stories, 3/5 of the pupils could answer correctly four different questions about the sequence of events. The following is an example of an exercise from one of the stories:

Reference: A story about a boy's encounter with a shark while exploring a cave beneath the ocean.

Item: What happened after Jeff drew his knife?

- Jeff looked at the shadows.
- Jeff swam out of the cave.
- Jeff swam into the cave.
- Jeff saw the shark for the first time.
- The shark circled and closed in for the kill.

Interpretive Comprehension

22	Similes:	The student will demonstrate recognition of similes by locating them in a given passage.

Forty-three percent of the pupils recognized similes in passages taken from stories used in the test. For instance:

Which of the following uses words in the same way as the sentence, "He roared like a lion"?

- Only to Janey did the willow plate seem perfect.
- To Janey it was no ordinary plate.
- She could feel the cool shade of willows.
- For the moment she had quite forgotten Lupe.
- The memory of her mother was like a bit of music.

24*	Draw Conclusions:	The student will demonstrate ability to draw logical conclusions by choosing the best of given conclusions.

Two-fifths of the pupils could draw logical conclusions from the four stories used in the test.

For example: The following question was asked from the story telling about the boy's encounter with a shark while exploring a cave beneath the ocean.

From Jeff's battle with the shark, we learn that Jeff is ____.

- slow
- clear-headed
- hasty
- unprepared
- cowardly

25*	Reasons and Conclusions:	The student will demonstrate recognition of inferences and conclusions by identifying clues leading to them.

Nearly two-thirds of the pupils could recognize inferences or conclusions from stories used in the test.

Example: Which of the following statements tells you what Darwin did while he was in South America?

- He slowly developed a theory.
- He startled the world with his theory.
- He mapped the coasts of South America.
- He gathered a huge collection of fossils.

28*	Best Summary:	The student will demonstrate recognition of main ideas of a passage or story by choosing a summary or statement that best represents it.

Only 1/3 of the pupils could recognize the main idea of the four stories.

An item used to measure mastery of this objective was

Reference: The story telling about the boy's encounter with a shark while exploring a cave beneath the ocean.

Item: The story is mainly about ____.

. a diver battling a shark
. the habits of sea sharks
. the discovery of riches
. a rescue at sea
. diving too deep for oysters.

Critical Comprehension

30	Compare/Contrast:	The student will demonstrate ability to compare stories by noting the similarities in two given stories.

Fifty-seven percent of the pupils could identify the similarities in two different stories. An example of an item used to measure mastery in this objective is:

The story about Darwin is like the story about Janey because both stories ____.

. tell about theories
. are about people and animals
. tell about the past
. happen at sea
. are about plants.

31*	Real/Make-believe:	The student will demonstrate ability to distinguish between real and make-believe by identifying elements in a story that could be true.

Less than 1/3 of the pupils could tell the difference between real and make-believe statements made in the stories used as references. An example item selected from the four stories used to measure this objective is:

The place where Janey really lives is ____.

- a Chinese garden
- near willow trees
- with her brothers and sisters
- near a stream with a bridge over it
- a world of heat and soapsuds and poverty.

Study Skills

36	Card Catalogue:	The student will demonstrate the ability to use the card catalogue by locating a specific card and answering questions about the information on the card.

Seventy-three percent of the sixth graders proved that they could use the information given on three library cards to answer questions such as:

- Who wrote the book about sharks?
- Who wrote the book about Texans?
- When did the book Sam Houston first appear?
- How many pages are there in the book about sharks?

41*	Index:	Given an index, the student will locate the page on which specified information can be found.

Almost 3/4 of the pupils could use the information from the "Subject Index" to The Complete Guide to Baseball to answer questions like:

What base can you find out about on page 25?

- first
- second
- third
- home
- pitcher

43	Dictionary:	The student will answer given questions about a given page in the dictionary (e.g., specify the number of one-syllable words).

Fifteen percent of the pupils could use the information from a sample dictionary page to answer four questions about the information given. Two of the four questions were

Which of the following entry words can be pronounced in more than one way?

- anchor
- ancient
- anger
- angry
- ankle

What part of speech is the word "ankle"?

- very
- adverb
- noun
- pronoun
- adjective

44	Diacritical Marks:	The student will correctly use diacritical marks to indicate long, short, and silent vowels.

Nearly 1/2 of the pupils could identify the correct diacritical markings for the words bat, effort, bamboo, and festival.

45	Guide Words:	The student will select from a given list the guide words appropriate for a given set of three words.

Thirteen percent of the pupils could choose the correct guide words for each set of the entry words given below.

- factory, familiar, feast
- physical, picnic, plant
- sniff, snort, song

46*	Encyclopedia:	The student can indicate in which volume of an encyclopedia given specific topics can be located.

Slightly more than 1/2 of the pupils could identify the correct volume of an encyclopedia to find the topics Texarkana, knighthood, Rio Grande, and Samuel Houston. An example of how mastery of this objective was measured is

The topic Texarkana would be found in ____.

- Volume 2, Ant-Balfe
- Volume 4, Botha-Carthage
- Volume 10, Garrison-Halibut
- Volume 21, Spelman-Timmins
- Volume 23, Vietnam-Zworykin.

Percentages of mastery of representative objectives - The percentage of pupils mastering the selected reading objectives ranged from a high of 81% for the objective of using the context of a sentence or paragraph to explain a meaning of a word to a low 13% for the objective requiring the ability to use guide words.

PUPIL PERFORMANCES BY POPULATION CATEGORIES

Figures 1 through 7 show pupil performance of various pupil populations on each of the 19 objectives selected as representative of the 48 reading objectives. Comparable data for all 48 objectives appear in tabular form as Appendix F.

Looking at Figure 1, the percentage of pupils who mastered Objective #1 (identified on the bottom line of the figure) is seen, from the vertical scale, to be approximately 68% for females (F) and 61% for males (M). The distance between F and M represents the difference between the percentage of females and the percentage of males who mastered the objective.

Figure 1 shows, for each of the 19 objectives chosen as representative of all 48 objectives, the amount by which the percentage of achievers among the girls exceeded the percentage of achievers among the boys.

FIGURE 1
PERCENT OF PUPILS MASTERING SAMPLE PRT OBJECTIVES BY SEX

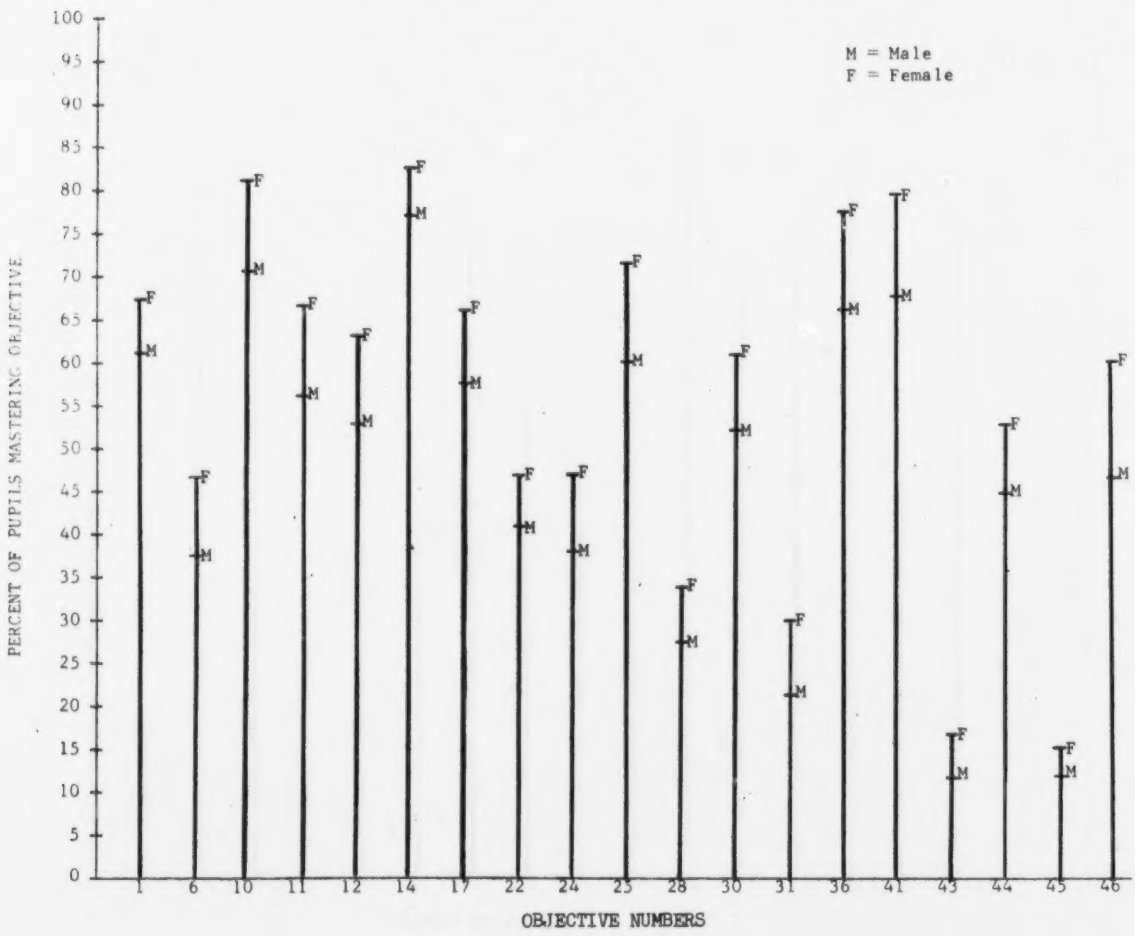


Figure 2 shows that, on each of the 19 representative objectives, the percentage of achievers was higher

- among pupils who were neither Black nor Mexican American, and
- among Mexican American than among Black pupils.

FIGURE 2
PERCENT OF PUPILS MASTERING SAMPLE PRT OBJECTIVES BY ETHNICITY

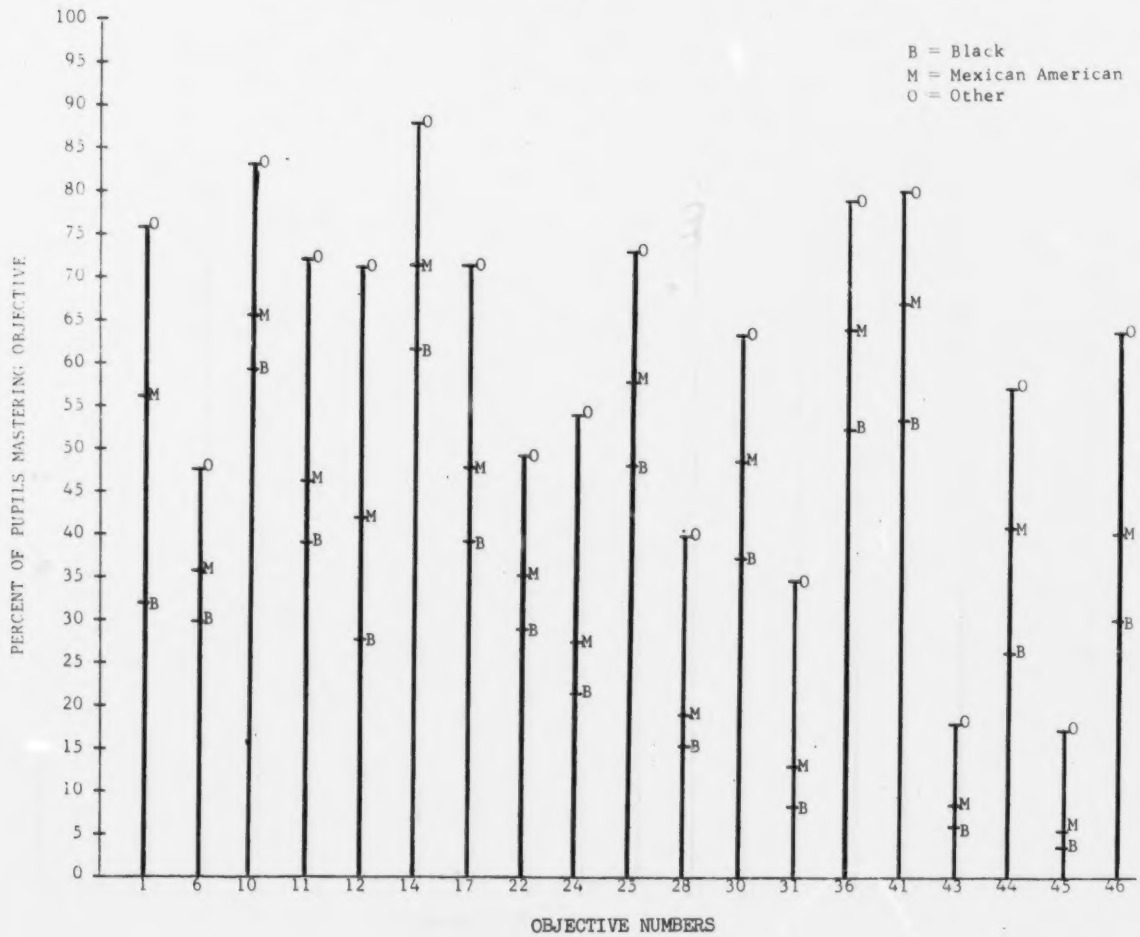


Figure 3 shows that, on 14 of the 19 representative objectives, the following pattern occurs: The percentage of achievers among pupils on campuses serving

- suburbs was the highest
- cities of under 200,000 was second highest
- rural areas was third highest
- cities of 200,000 to 500,000 was fourth highest, and
- cities of over 500,000 was lowest of any group.

On three of the 19 objectives the only departure from the above pattern was an exchange of the position of cities of over 500,000 population with that of cities of 200,000 to 500,000 population.

FIGURE 3
PERCENT OF PUPILS MASTERING SAMPLE PRT OBJECTIVES BY SIZE OF COMMUNITY

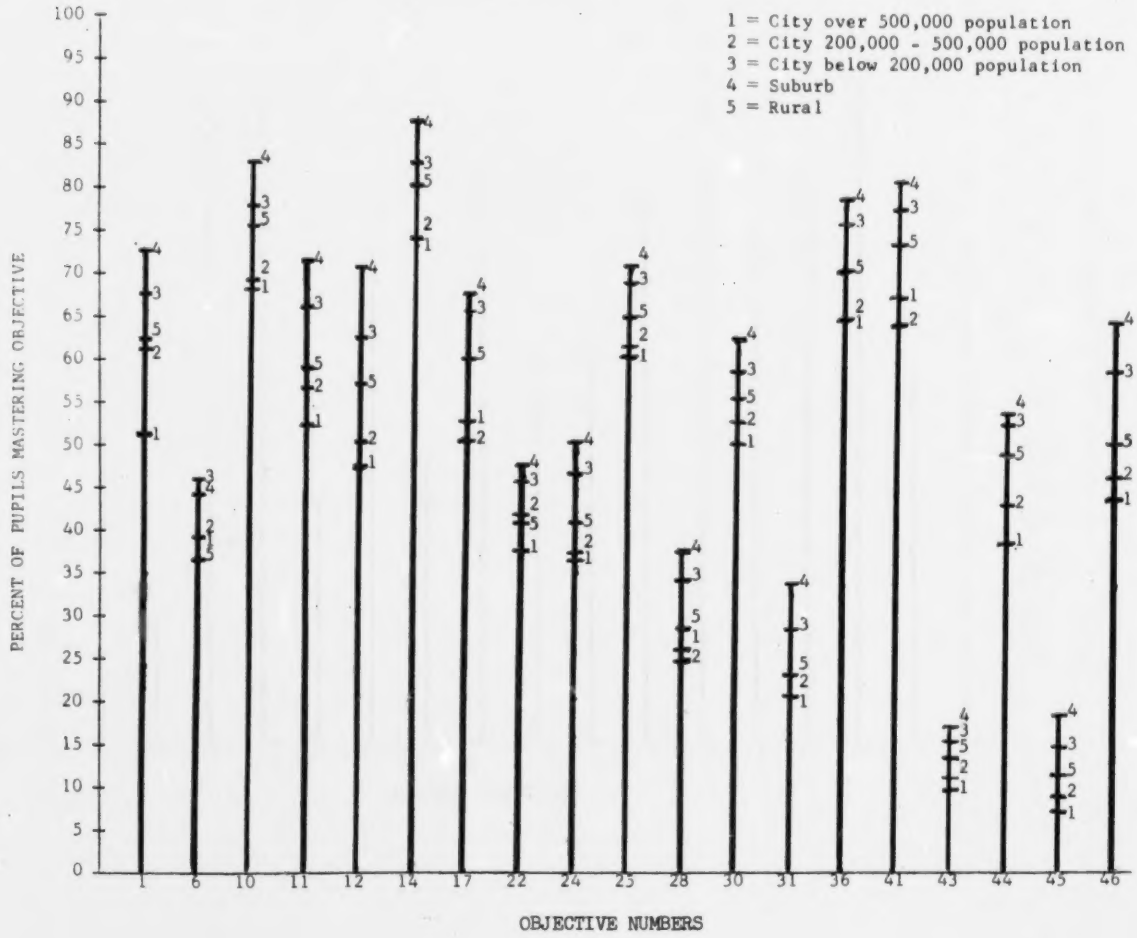


Figure 4 shows that, for each of the 19 representative objectives, the percentage of mastery was higher among pupils enrolled on campuses not receiving Title I, ESEA, funds. On none of the 19 objectives, however, was the percentage of mastery among pupils on Non-Title I campuses more than seven percentage points higher than that of pupils on Title I campuses.

FIGURE 4
PERCENT OF PUPILS MASTERING SAMPLE PRT OBJECTIVES BY FUNDING SOURCE

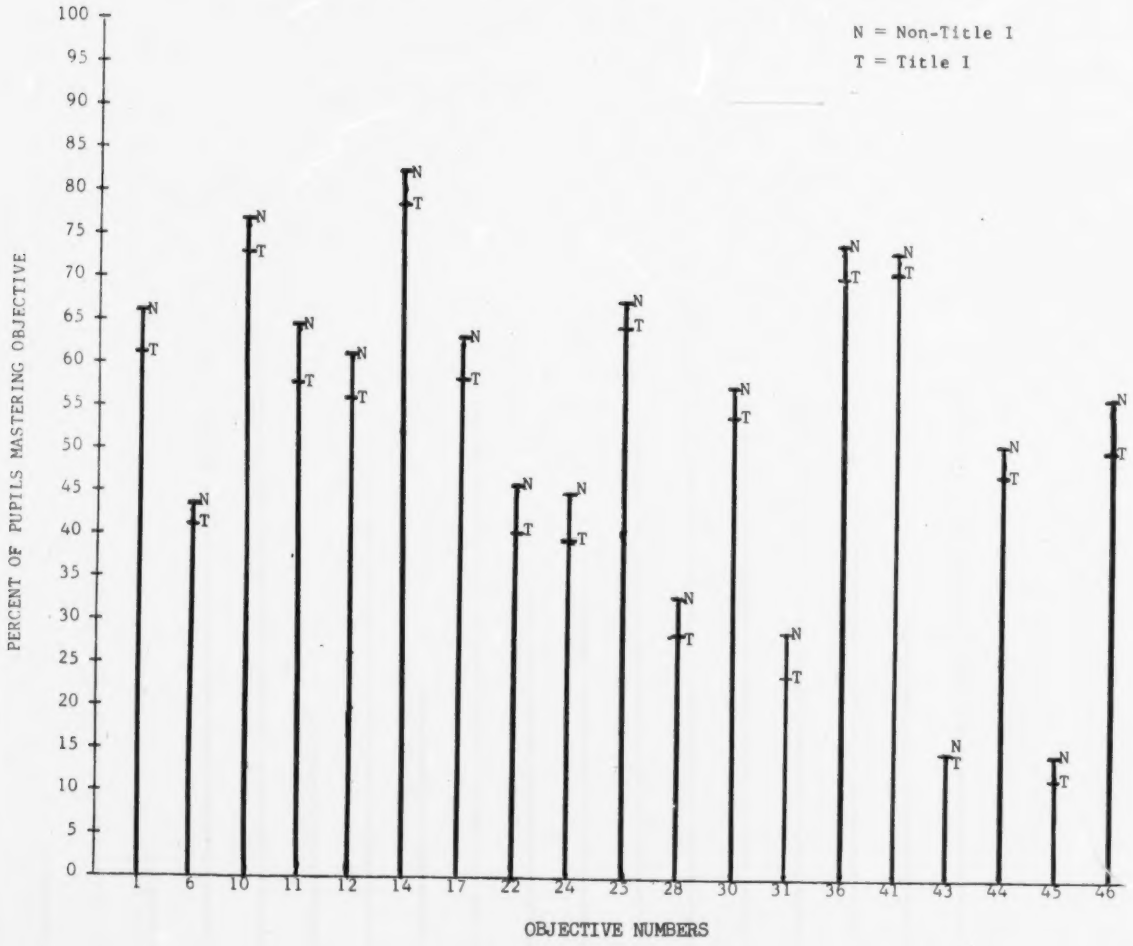


Figure 5 shows that, for each of the 19 objectives, pupils from homes where the educational emphasis is high had a percentage of achievers at least double or at least 20 percentage points greater than that of pupils from homes where the educational emphasis was low.

FIGURE 5
PERCENT OF PUPILS MASTERING SAMPLE PRT OBJECTIVES BY EDUCATIONAL EMPHASIS INDEX

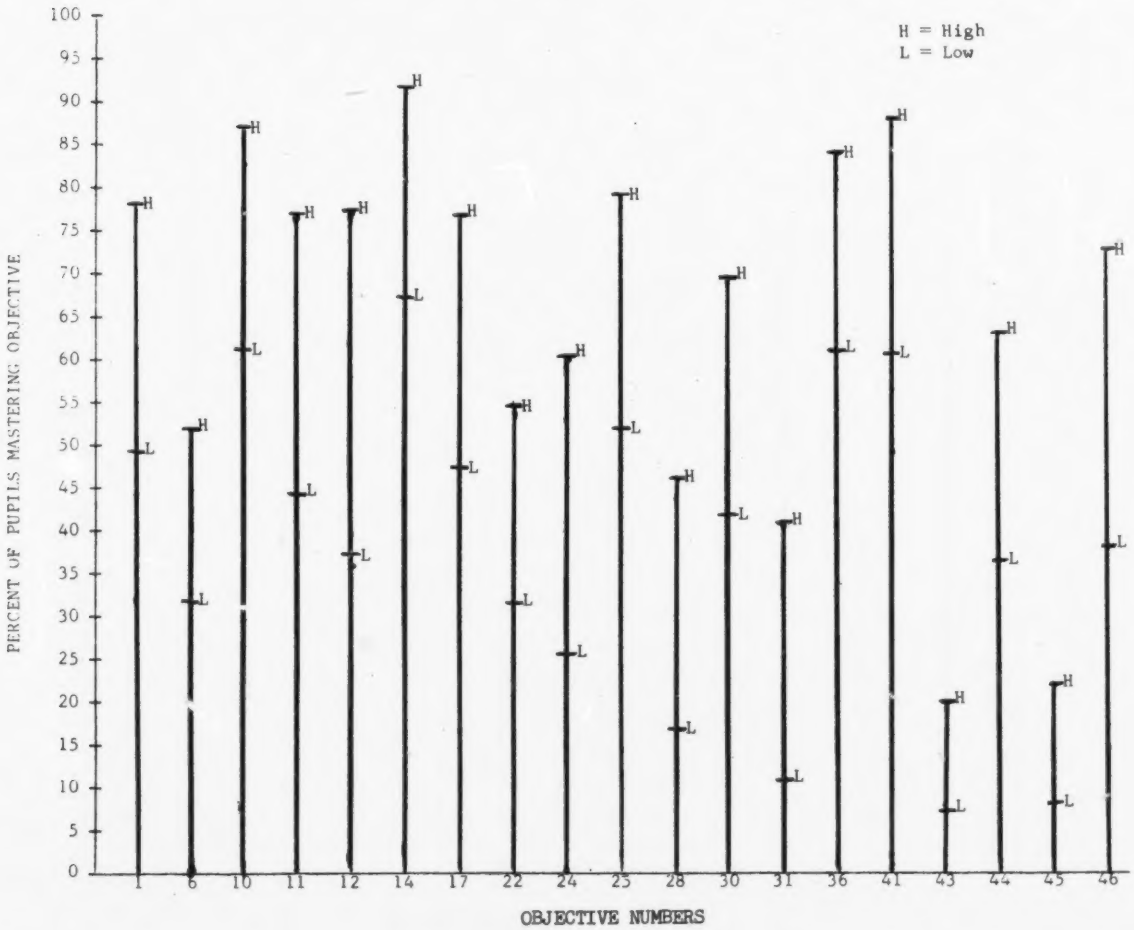


Figure 6 shows that, for each of the 19 objectives, pupils who checked "Yes" in response to the question "Are you good in reading?" had a percentage of achievers at least double or at least 15 percentage points greater than that of pupils who checked "No".

FIGURE 6
PERCENT OF PUPILS MASTERING SAMPLE PRT OBJECTIVES BY SELF-PERCEPTION IN READING

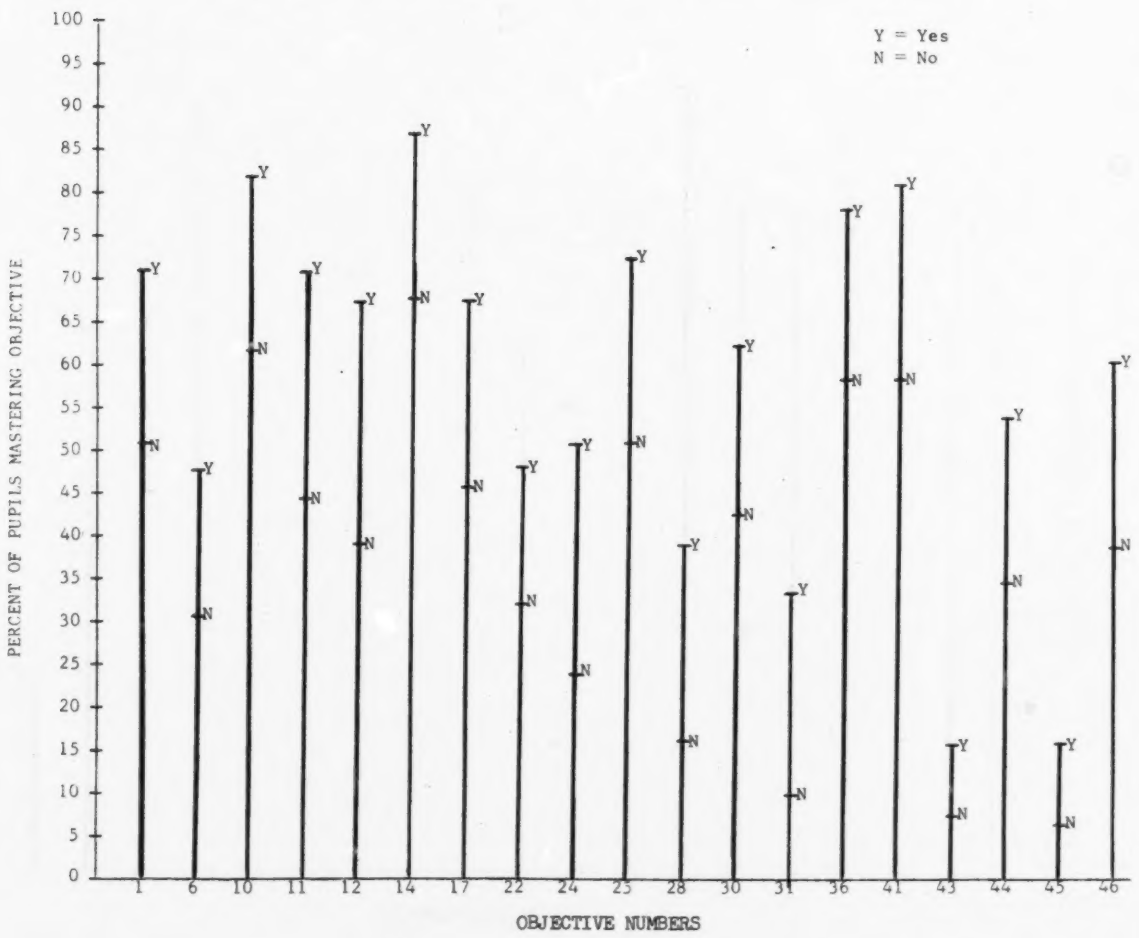
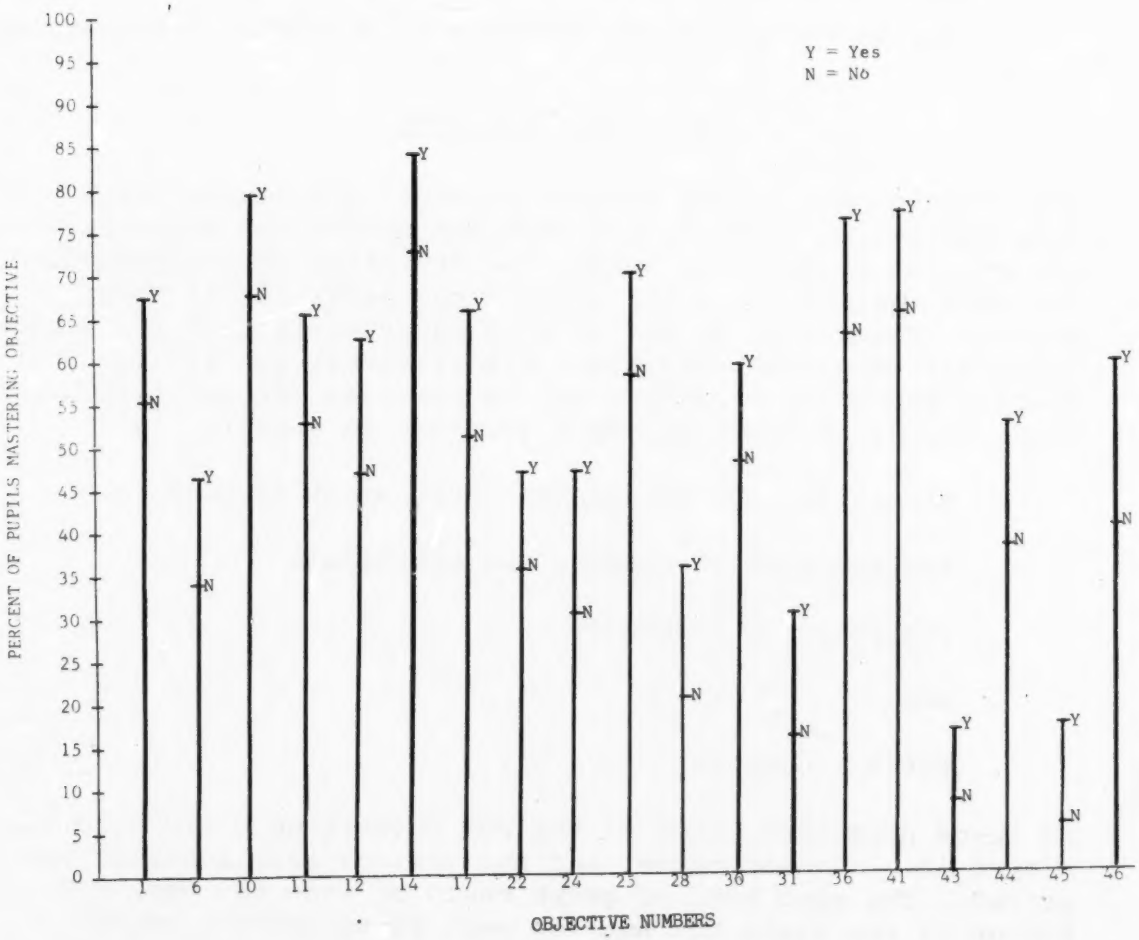


Figure 7 shows that, for each of the 19 representative objectives, pupils who checked "Yes" in response to the question "Are you good in arithmetic?" had a percentage of achievers at least double or at least 10 percentage points greater than that of pupils who checked "No".

FIGURE 7

PERCENT OF PUPILS MASTERING SAMPLE PRT OBJECTIVES BY SELF-PERCEPTION IN ARITHMETIC



Examination of Figures 1, 2, 4, 5, 6, and 7 revealed that on all 19 objectives the percentage of achievers was higher among

- boys
- pupils who were neither Black nor Mexican American
- pupils enrolled on campuses which did not receive Title I, ESEA
- pupils from homes where the educational emphasis was high
- pupils who perceived themselves as good in reading, and
- pupils who perceived themselves as good in mathematics.

ADDITIONAL ANALYSES

The relationship of the pupils' personal and demographic characteristics to their performances on the PRT objectives can also be analyzed by noting the deviation of performance for each variable from the performance level of all Texas pupils. Figures 8, 9, and 10 show these variations for Objectives #31 (Real/Make-believe), #12 (Italics) and #14 (Word Meaning/Context); variation can be observed for the following characteristics (in order from greatest to least):

- ethnicity and educational environment at home
- feeling good in reading and arithmetic
- size/type of community
- sex
- Title I schools.

If space permitted, each of the PRT objectives could be displayed in a similar manner and the various relationships reported. The same kind of graph could be made for each ESC region of the State but <u>not</u> for each participating school district because the pupils tested were not selected to be

FIGURE 8
DEVIATIONS OF SUBGROUPS FROM PERFORMANCE LEVEL OF ALL TEXAS PUPILS
ON OBJECTIVE #31 - REAL/MAKE-BELIEVE

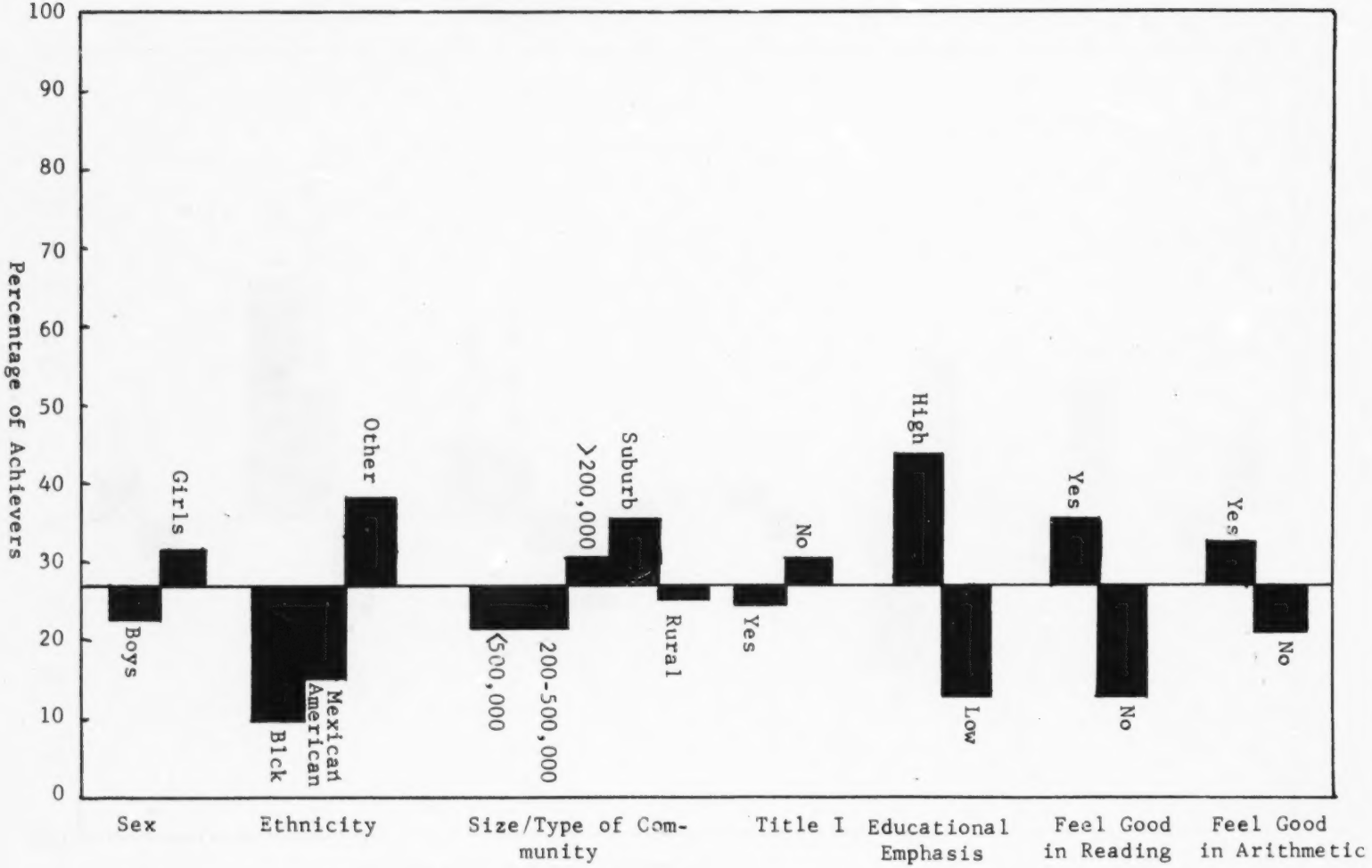


FIGURE 9
DEVIATIONS OF SUBGROUPS FROM PERFORMANCE LEVEL OF ALL TEXAS PUPILS
ON OBJECTIVE #12 - ITALICS

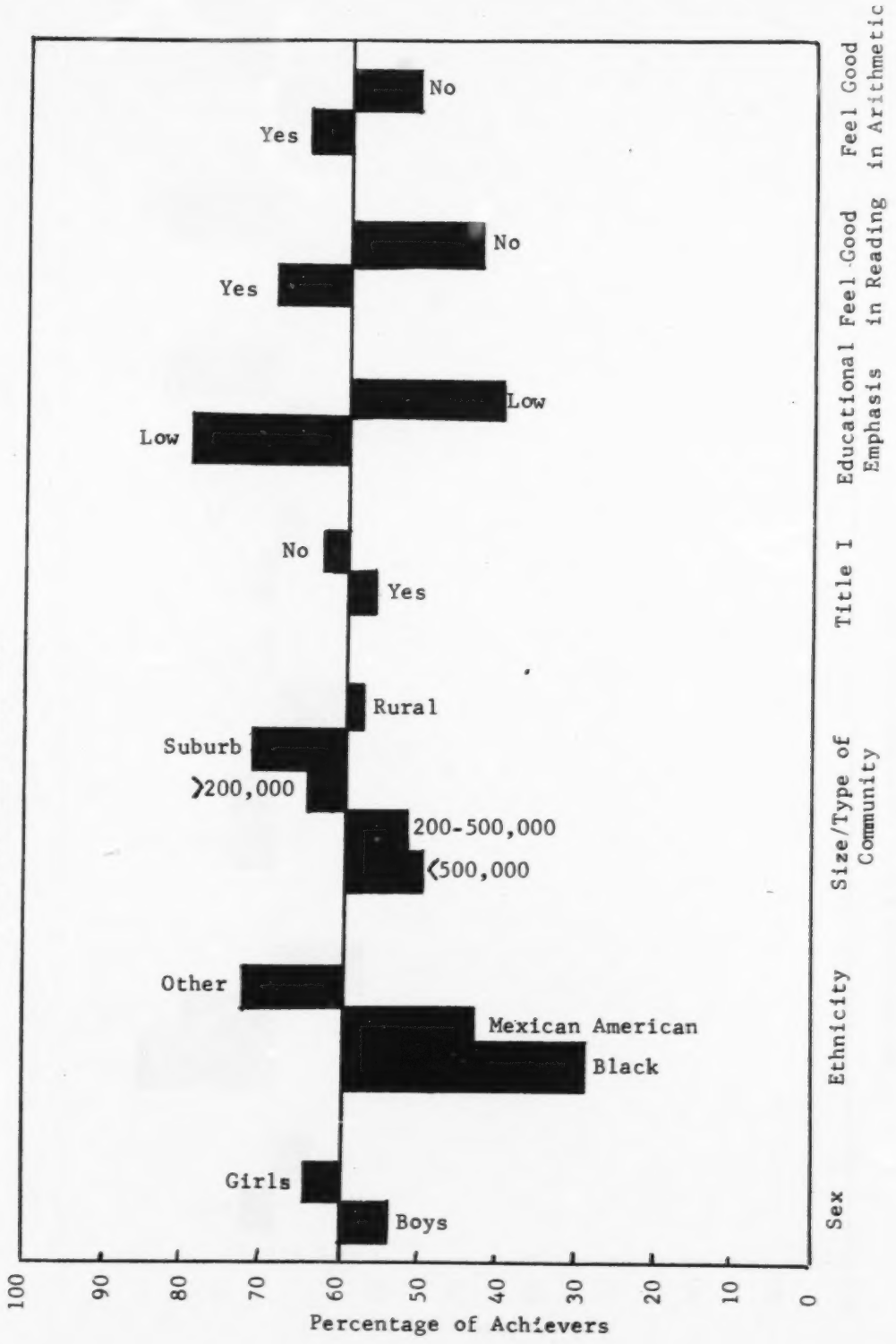
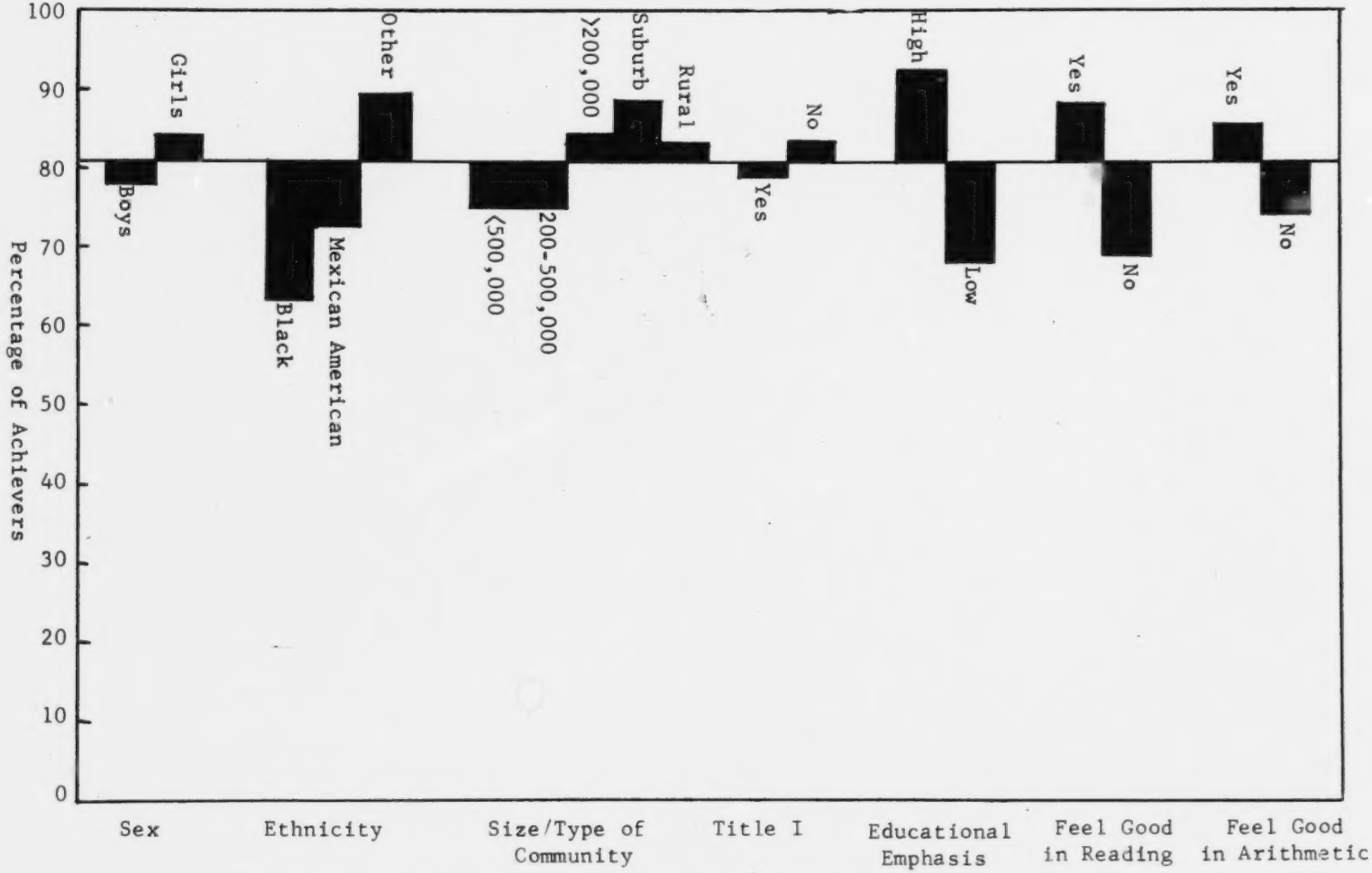


FIGURE 10
DEVIATIONS OF SUBGROUPS FROM PERFORMANCE LEVEL OF ALL TEXAS PUPILS
ON OBJECTIVE #14 - WORD MEANING/CONTEXT



representative of the district. For the district, those PRT objectives which are most related to the school's reading program could be selected and a graph using data from Appendix F could be constructed similar to Figures 8, 9, and 10. This information would provide a statewide profile of the percentage of achievers for all these pupil characteristics. Comparison of local, regional, and state results can be made if the pupil characteristics are similar.

V. SUMMARY OF FINDINGS

The PRT data were collected from a representative (10%) sample of Texas sixth-grade pupils according to their sex distribution, ethnicity, size and type of communities in which their schools were located, and funding source (Title I/ Non-Title I schools).

The project was so designed that the education service centers and participating schools worked cooperatively in providing accurate information by making sure that the pupils had every chance to answer the questions posed and by checking the pupils' responses on the PRT answer sheets. The length of the instructions necessary to take or administer the PRT was kept to a minimum so that the pupils could spend their time on taking the test. The test administrators were encouraged to help the pupils in whatever way possible (with the exception of answering the questions or working the problems for them). No attempt was made to determine the exact conditions under which these tests were administered; however, it could be assumed that the testing situations varied almost as much as the performances of the pupils (e.g., some of the school personnel indicated that they tested all of the sixth graders at the same time in the auditorium within a two-day period while others had their pupils work on the test over a two-week period as a part of their regular classwork). No attempt was made to relate the kinds of testing situations to the performances of the pupils on the PRT; however, very few comments on the teacher's evaluation survey seemed to indicate that this was a problem.

An advantage of the PRT is that it is a "power-test," not a "time-test." It was designed specifically to measure the performances of every pupil no matter how much or how little time it took. Therefore, the test data should give a fairly accurate indication of how the pupils were able to perform with regard to the PRT objectives covered in the state-adopted textbooks for reading. Whether or not these pupils had been taught or had learned to achieve objectives other than those in the PRT is unknown and an area for further investigation.

Considerable effort was made to eliminate any cultural bias in the wording of test items in the PRT. The purpose of the PRT was not to discriminate against any particular pupil

population but to determine if any of the pupils performed differently on the PRT, regardless of their reference groups. Unfortunately time did not permit a tryout of the PRT objectives on a sample of different pupil populations. The extent to which the PRT data are invalid will depend upon the demonstration of bias in the PRT test items and/or objectives derived from the state-adopted textbooks for reading at the sixth-grade level.

Criteria - Setting universal standards for pupil performances in reading is difficult if not undesirable. The criteria for "acceptable" performance can, of course, be established in any number of ways: comparing the performances of pupils with other pupils, developing absolute standards of excellence, setting minimum levels for achievement in society, having the individual pupil set his own levels of performance, and so on. In this case, a select group of educational experts and teachers was asked to rate the PRT objectives as to whether they thought they were considered to be "basic" or "desirable" for the pupils' functioning in society. Whether the performances of the pupils meet these expectations is apparent throughout this report; whether these are the acceptable levels of pupil performances is still an open question and should condition the drawing of hard-and-fast conclusions.

Utility - The use, in the modification of instructional programs, of conclusions regarding pupils' achievement of the PRT objectives should occur only after consideration of such matters as

- the degree to which the pupils have been exposed to the objectives
- the level of difficulty of the test items, and
- the relevance of the test item content to the pupils' cultural experiences.

Related studies - The Agency is conducting two studies directed toward determining the relationships between pupil learning and school based factors. The Department of Special Education and Special Schools has undertaken a project entitled Programmed Reentry Into Mainstream Education (PRIME). Project PRIME focuses upon the relationship between learning, on the one hand, and such variables as children's personality characteristics, classroom social organization and climate, teacher

behaviors and attitudes, peer relations, and home environment, on the other. The Division of Accreditation is undertaking a study of the relationships between learning and a host of variables such as curricular offerings, teacher qualifications, school expenditures, ethnic composition of the campus pupil population and staff, and community characteristics.

GENERAL FINDINGS

The percentage of pupils achieving the 48 objectives that were measured ranged widely-from only 7% in the case of Objective #29 (Key Sentence) to 81% for Objective #14 (Word Meaning/Context) and Objective #38 (Usefulness of Information). On only five of the objectives, however, did the percentage of achievers fall below 30%; these objectives were #29, #43, #45, #31, and #47. At least half the pupils achieved 27 of the 48 objectives.

Pupils' performances on the PRT objectives were analyzed to determine the relative standing of

- boys and girls
- Black, Mexican American, and other pupils
- pupils whose schools were and were not participating in ESEA, Title I
- pupils whose schools were located in communities of various sizes and types
- pupils whose educational environment at home was high and low
- pupils who did and who did not perceive themselves as good in reading
- pupils who did and who did not perceive themselves as good in arithmetic.

For each of the above pupil characteristics, the percentages of pupils achieving each of the 48 PRT objectives are presented in Appendix F, and a summary chart of the performances of all the sixth graders is given in Appendix G.

Sex - On 46 of the 48 PRT objectives that were measurable the girls had a higher percentage of achievers than the boys; on the other two objectives the percentage of achieving boys exceeded the percentage of achieving girls by only one percentage point.

On nine objectives the percentage of girls achieving the objective exceeded the percentage of achieving boys by more than ten percentage points; four of these objectives were in the area of Study Skills (#36, #38, #42, and #46); the remaining five included two in the area of Interpretive Comprehension (#25 and #26), and one each in the areas of Literal Comprehension (#19), Critical Comprehension (#34), and Structural Analysis (#11).

Ethnicity - On none of the 48 PRT objectives did the Black pupils have a larger percentage of achievers than the Mexican American pupils. On only two objectives did the Mexican American pupils come within ten percentage points of having as large a percentage of achievers as the pupils who were neither Black nor Mexican American; these objectives were

#29 Key Sentences (Black 4%, Mexican American 5%, Others 9%)

#43 Dictionary (Black 8%, Mexican American 10%, Others 19%).

On 22 of the PRT objectives, the percentage of Black pupils achieving the objectives was less than half as large as the percentage achieving the objectives among pupils who were neither Black nor Mexican American.

On the following objectives neither Black nor Mexican American pupils had half as large a percentage of achievers as pupils who were other than Black or Mexican American.

#4 Vowel Sounds (Black 10%, Mexican American 18%, Others 41%)

#9 Defining Prefixes (Black 15%, Mexican American 18%, Others 39%)

#13 Sentence Fragments (Black 12%, Mexican American 19%, Others 40%)

#15 Synonyms (Black 31%, Mexican American 38%, Others 70%)

#16 Words and Sentences/Relationships (Black 25%, Mexican American 29%, Others 65%)

#18 True Statements (Black 16%, Mexican American 21%, Others 50%)

#28 Best Summary (Black 16%, Mexican American 20%, Others 41%)

#31 Real/Make-Believe (Black 10%, Mexican American 15%, Others 37%)

#45 Guide Words (Black 4%, Mexican American 6%, Others 19%).

The two objectives on which the differences in performance among the three ethnic categories were not large (operationally defined as neither differing in their percentages of achievement by more than 20 points nor having the percentage of achievers in one ethnic category more than double the percentage of achievers in another ethnic category) were

#6 Syllables (Black 31%, Mexican American 36%, Others 48%)

#7 Accent (Black 28%, Mexican American 34%, Others 47%).

Pupils on Title I campuses - On none of the 48 PRT objectives did the pupils from campuses participating in Title I, ESEA, have a larger percentage of achievers than did the pupils from Non-Title I campuses. For none of the objectives was the difference in percentage of achievers greater than eight percentage points.

Size and type of community served - For each of the 48 objectives, the percentage of pupils achieving the objective was tabulated for pupils on campuses serving

- suburban communities
- cities of less than 200,000 population
- rural areas
- cities of 200,000 to 500,000 population
- cities of over 500,000 population.

Comparison, across community types, of the percentage of achievers of each objective yielded the finding that pupils on campuses serving suburban communities had the highest percentages of achievers and pupils on campuses serving large cities had the lowest percentage of achievers.

1. On each of the 48 objectives, the pupils on campuses serving suburban communities either had or came within one percentage point of having the highest percentage of achievers.

2. On each of the 48 objectives, the pupils on campuses serving cities of less than 200,000 population either had or came within one percentage point of having the second highest percentage of achievers.

3. On each of 47 objectives, the pupils on campuses serving rural areas either had or came within one percentage point of having the third highest percentage of achievers.

4. On each of 45 objectives, the pupils on campuses serving cities of 200,000 to 500,000 population either had or came within one percentage point of having the fourth highest percentage of achievers.

5. On each of 46 objectives, the pupils on campuses serving cities of more than 500,000 population either had or came within one percentage point of having the lowest percentage of achievers.

Departures from the predominant pattern were the following:

1. On Objective #9 (Define Affixes) the pupils on campuses serving rural areas had the fourth highest percentage of achievers (26%) and pupils on campuses serving cities of 200,000 to 500,000 population had the third highest percentage of achievers (29%).

2. On Objective #39 (Analogy) and Objective #41 (Index) the pupils from campuses serving cities of 200,000 to 500,000 population had the lowest

percentage of achievers (68% and 66% respectively) and pupils from campuses serving cities of over 500,000 population had the fourth highest percentage of achievers (71% and 68%, respectively).

On five of the objectives the difference between the percentage of achievers on campuses serving suburban communities and the percentage of achievers on campuses serving cities of over 500,000 population was more than 20 percentage points:

- Objective # 1 (Alliteration)
- Objective #12 (Italics)
- Objective #15 (Synonyms)
- Objective #16 (Words and Sentences/Relationship)
- Objective #46 (Encyclopedia)

On 41 of the 48 objectives the difference between the percentage of achievers on campuses serving suburban communities and the percentage of achievers on campuses serving cities of less than 200,000 population did not exceed five percentage points.

On 39 of the 48 objectives the difference between the percentage of achievers on campuses serving rural communities and the percentage of achievers on campuses serving cities of less than 200,000 population does not exceed five percentage points.

On all except two of the 48 objectives (#29 and #43) the percentage of achievers on campuses serving cities of less than 200,000 population was more than five percentage points higher than the percentage of achievers on campuses serving cities of 200,000 to 500,000 populations.

On all except three of the 13 Study Skills objectives the percentage of achievers on campuses serving cities of 200,000 to 500,000 population was more than five percentage points lower than the percentage of achievers on campuses serving rural areas.

Educational emphasis in the home - For each of the objectives, the percentage of pupils achieving the objective was tabulated for pupils from homes where educational emphasis was

extremely high or extremely low (see page 12 for derivation of the Educational Emphasis Index).

On all 48 objectives the differences in achievement between the pupils having high and low home educational emphasis were large. The percentage of pupils achieving each objective was either at least 18 percentage points greater among pupils from homes having a high educational emphasis than among pupils from homes having a low educational emphasis, or the percentage of achievers among pupils from homes having a high educational emphasis was more than double the percentage of achievers among pupils from homes having a low educational emphasis. On 31 of the 48 objectives the difference in the percentage of achieving pupils from homes of high and low educational emphasis was 25 percentage points or greater.

Among pupils from homes having a low educational emphasis the percentage of achievers ranged from 4% (on Objective #29) to 68% (on Objective #14 and on Objective #38). Among pupils from homes having a high educational emphasis the percentage of achievers ranged from 10% (on Objective #29) to 92% (on Objective #14 and on Objective #38).

Self-perception in reading - Among the pupils who felt they were good in reading the percentage of achievement was, on all except one objective, either at least 15 percentage points or at least double the percentage of achievers among pupils who did not feel they were good in reading; the exception was on Objective #29, where the percentage of achievers was 8% and 5% respectively. The largest difference (36 percentage points) in percentage of achievers occurred on Objective #37.

Self-perception in arithmetic - Pupils' perception of whether they were good in arithmetic was not associated with their performance on the reading objectives as strongly as was their perception of whether they were good in reading. With only the exception of Objective #29, however, among the pupils who felt they were good at arithmetic the percentage of achievement on each reading objective was at least eight percentage percentage points greater than among pupils who dod not feel they were good in arithmetic.

Recapitulation

1. The girls' performance was better than that of the boys, particularly on those objectives concerned with study skills. On only two objectives, and then by only one percentage point, did the boys have the higher percentage of achievement.

2. On all of the objectives the Others (primarily Anglo) performed better than the Mexican Americans, who in turn performed better than the Black pupils. On almost half the objectives, the percentage of achieving Others was double the percentage of achieving Blacks.

3. On no objective was the difference in performance between pupils who were on and who were not on campuses that participated in Title I, ESEA, large. The slight differences were consistently in favor of those pupils whose campuses were not participating in Title I.

4. On most of the objectives the pupils on campuses serving

   - suburban communities had the highest percentage of achievers
   - cities of less than 200,000 population had the second highest percentage of achievers
   - rural areas had the third highest percentage of achievers
   - cities of 200,000 and 500,000 population had the fourth highest percentage of achievers, and
   - cities of over 500,000 had the lowest percentage of achievers.

   On only three of the 48 objectives were there substantial departures from the above pattern (and even these departures did not apply to the suburban communities or cities of less than 200,000).

5. On all objectives, the percentage of achieving pupils was substantially higher among pupils from homes having a high educational emphasis than among pupils from homes having a low educational emphasis.

6. On all objectives, the percentage of achieving pupils was substantially higher among pupils who responded "Yes" rather than "No" to the question

   . "Are you good in reading?"

   . "Are you good in arithmetic?"

   The differences were larger for "good in reading" than for "good in arithmetic."

VI. USE OF ASSESSMENT INFORMATION

Teachers whose pupils were tested have received reports of the performance on each of the objectives by each individual pupil; in addition, the teachers and principals have received summary reports by classroom and by campus. The sample was not designed to provide superintendents with a representation of performance by school district; i.e., the campuses selected to contribute to the representation of each education service center region and, in total, the State of Texas, were not necessarily representative of the school district from which they were drawn.

The information in this statewide report is appropriate for use by curriculum directors, mathematics supervisors, and other district level personnel having responsibility for planning, developing, and implementing programs for students.

MAKING USE OF THE ASSESSMENT INFORMATION

Review of the objectives - The objectives for the Prescriptive Reading Test-Texas which was used as the assessment instrument for this study are based on reading skills and concepts taught in most classrooms up to entry into the sixth grade. They were derived from an analysis of the major series of textbooks that are used in schools including those on the state-adoption list in Texas.

A beginning point in making use of the results is to study the PRT objectives and note the ones that are relevant to the district's reading program. If the school district's reading program objectives have not been specified, a good reference is the set of objectives found in curriculum guides, or in the charts available with the reading textbook series in use in the district. In all probability there will not be a complete congruence between the PRT's objectives and the school's objectives. Also, in reviewing the objectives, note those that have been designated as "basic" by statewide evaluation groups.

If the district does not have program objectives for the reading curriculum, the objectives used with PRT could be of assistance in developing these. The objectives that are

developed by the district can serve to point directions for instruction and can communicate progress in student performances. The incorporation of "basic" objectives into the district's overall program objectives could provide a start for the development of some type of minimum level for students to reach in reading as a standard for functional literacy.

Determining pupil performances - The results from this statewide reading assessment, because of sampling procedures used, would not present a true picture of pupil performance for each school district that participated in the reading assessment. The state sample purposely includes a certain percentage of different student populations that is representative of Texas. However, with the use of the objectives for the reading program, information similar to that in the assessment study can be developed by school districts. Several alternatives can be used.

Some concepts about the status of students can be derived from studying the reports provided for schools through this assessment. Direct statements about district level of performances cannot be made but some general perceptions about students in relation to the objectives can be made. If the objectives that are included in the district's reading program have been noted, the educators at the district level can later investigate any discrepancies between what might be expected as the performance and the actual performance.

Another alternative for determining pupil performance in relation to learner objectives for the reading program at the district level would be to administer a criterion-referenced test instrument as a part of the school district's testing program. However, careful preliminary planning must be done if assessment information such as that gained in the statewide study is to be gathered. For instance, a grade level for assessment has to be chosen. Plans have to be made for collecting demographic information about the student population groups and for relating this information to student performances. If the assessment is going to be based on a sample of students, then the sampling plan must be developed. Because of the type of information that is required for a district-wide assessment, it is probable that computer service will be necessary. If the alternative of conducting a district assessment similar to the statewide reading assessment

is chosen, a review of the procedures used for the 1971 Texas Assessment of Reading would be helpful.

Summarizing the results - The information about student performances on the statewide assessment of reading, and the emphasis in this section on transferring some of the concepts from this assessment for use in school districts, are based on the use of criterion-referenced instruments for assessment.

The results from criterion-referenced instruments have to be treated differently from those received from standardized tests that most school personnel are accustomed to using. This difference is due primarily to the psychometric procedures used in developing the two different types of instruments. Criterion-referenced tests are intended for determining the relationship between measurable objectives and student performances relative to mastery of these objectives, while standardized (norm-referenced) types of tests are intended to find out about the abilities of students by comparing them with other students. Because of the importance of the objectives in criterion-referenced testing, group reports of results are stated by giving the percentage of pupils who mastered each objective. These results cannot be summed into a single performance score as in the case of norm-referenced test results.

Application of assessment results - As was mentioned in the section on determining pupil performances, a school district will be interested in the relationship between expectations for performance and the actual performances of students. Some considerations should be taken into account in setting the expectation levels. These are the degree of difficulty of the performance expressed in the objective, the amount of previous instruction that the students have had in the subject matter covered by the objective, and the grade level or educational level of the students. A review of student performances should include notations of any discrepancies. For example, school personnel may have set an expectancy level that 50% of the districts' students upon entering the sixth grade will have mastered the objective of being able to draw conclusions in interpretive comprehension. If, then, the sixth graders' performance on the assessment reveals that 30% of the students have mastered this objective, then the 20% discrepancy would

be noted for investigation. Discrepancies then can be organized into statements that express the needs of learners in the reading program.

Before an investigation of causative factors is initiated the assessment information should be validated, particularly if it was derived from one test instrument that was administered once during the school year. One method of validating would be for teachers to readminister items related to objectives that the assessment indicated students were having difficulty in mastering. After validations, causative factors for the remaining discrepancies might be investigated from several points of view. Several approaches might be taken.

A study could be made of the instructional materials used by the schools in the district. Perhaps the instructional materials in use, such as the basic text, do not emphasize the skills and concepts covered in some of the objectives. If certain student population groups are showing discrepancies on a large number of reading objectives, the entire range of instructional materials might be studied to determine the problems with current materials and then to identify different and alternative instructional materials that might hold more relevance for pupils from various environmental backgrounds.

The instructional techniques used in the classroom should be investigated if gross discrepancies have been revealed. If the predominant instructional pattern used in the school is group-oriented, the assessment information might indicate that many of the students have not had sufficient time and explanation to master the ideas stated by the objectives. Organization for instruction might be changed because of information provided by the assessment. Many more investigations can be initiated from an analysis of assessment data that have not been covered in this report. For instance, such possible causation factors as teacher attitudes, parental and community attitudes, and other student motivational factors might be studied.

Making use of all the information from an assessment study is like opening "Pandora's box." Studying the data from differing frames of reference can produce a variety of investigations and a variety of interpretations. For a school district with limited time and resources, the statements of student needs

that are derived from the assessment information will have to be prioritized and plans will have to be developed for a series of phases directed towards alleviation of the needs.

A thorough report on the usefulness of the information from the 1971 study and adaptation of assessment concepts by a school district would be quite lengthy. However, school districts can contact the Texas Education Agency or their regional education service center for more information about the utilization of the results of the 1971 Texas Assessment of Reading or needs assessment in general.

VII. EVALUATION

An essential part of the assessment project was its evaluation phase. Evaluative information was requested from teachers and other school personnel to determine

- the degree to which school personnel are familiar with the concepts of criterion-referenced tests
- the teachers' perceptions about the usefulness of criterion-referenced information in the classroom, and
- the degree to which the present system of communication about assessment projects is providing information for the classroom teacher.

An independent consultant assisted the Texas Education Agency in the development of three separate instruments for evaluation purposes. These were

1. Survey Form for School Contact Persons - These were designed for use by the assessment contact persons in the education service centers to determine the extent to which school personnel were knowledgeable about and used criterion-referenced tests.

2. Evaluation Form-Post-Test Workshop - Workshops were held in each of the education service centers to review the test results and to discuss how the information could be used in classroom instruction. This evaluation form was used to find out how well school personnel thought the objectives for the post-test workshops were met.

3. Survey of Teacher Opinion - These questionnaires were designed for sixth-grade reading teachers to express their reactions to the total assessment effort after most of them had the opportunity to study and use the results.

A brief summary of the responses to each individual evaluation instrument is presented in Appendix H. The following conclusions can be drawn from these evaluation summaries:

1. Criterion-referenced testing was a new experience for over 90% of the school personnel.

2. The teachers surveyed agreed that the testing was (a) based on measurable objectives, (b) primarily for diagnostic or planning purposes, and (c) more useful as a diagnostic tool than norm-referenced tests for pupil appraisal.

3. Since school personnel agreed with the concepts of criterion-referenced testing, but were not sure that they could explain the principles involved to another teacher, perhaps they have not had enough experience with this type of testing to really understand the implications.

4. The evaluative questionnaires used to collect information showed that the respondents were very positive in their opinions, and that the results from the criterion-referenced testing would be useful for planning classroom instruction and for tailoring programs to the continuous progress of pupils in the participants' schools.

5. An analysis of the comments from teachers who responded "No" to the inquiry about the usefulness of results in the classroom on the "Survey of Teacher Opinion" reflected concern for the following:

   - The lateness in arrival of the results did not give enough time to make full use of the information about pupils during the remainder of this school year. (The results were late because of technical problems encountered by the test contractor in scoring the results.)

   - The subject-matter covered in class was not covered on the tests or some of the items on the tests were not to be covered in the teachers' classrooms.

- The test results were not applicable to the teachers' classroom situations; for instance, the classes were too large to permit individualization of instruction.

- The tests were too difficult for some of the pupils.

- Not enough textbook references were given with the test references.

- The validity of the concepts upon which the criterion-referenced tests were developed was not challenged.

6. Affirmative comments about the usefulness of the criterion-referenced results in the classroom emphasized the fact that the information identified pupil weaknesses in skills, identified areas of the curriculum needing study, and identified special pupil abilities.

7. A majority of the teachers found the test results useful especially if they or their school had interest in some system of continuous progress of pupils and if they understood the diagnostic and planning concepts upon which the criterion-referenced test results were based.

8. It is also evident that some of the teachers are so oriented toward norm-referenced comparisons of pupil and classroom achievement that they did not see the purpose in having objectives and items for the tests that had not been covered in the classroom.

9. A question on the "Survey of Teacher Opinion" asked about the helpfulness of the post-test workshop. The "Survey" responses of teachers who did not attend a workshop differed from those teachers who did attend in terms of opinions about the usefulness of test results for classroom instruction. For instance, 48% of the respondents who indicated they did not attend a workshop stated that the test results were not particularly helpful for classroom instruction while 38% of those who attended workshops gave the same response.

10. The voluntary participation of the regional education service centers and schools selected in the assessment sample was excellent. Each of the 20 education service centers and almost all of the schools that were selected cooperated in this study.

APPENDIX A

LONG-RANGE PLANS FOR NEEDS ASSESSMENT

An increasing demand for accountability of public school education has resulted in the assessment and evaluation of educational programs in Texas to determine the extent to which they are meeting the needs of learners. The underlying assumption is that these programs can be designed more adequately when the educational needs of learners have been identified. The Texas Education Agency has placed considerable emphasis on needs assessment as an integral part of comprehensive planning in Texas.

Long-range plans for educational needs assessment are based upon the idea that the Texas Education Agency will initiate needs assessment activities concommitantly with the regional education service centers and schools. Each statewide assessment activity proposed (or completed) deals with (a) a specific area of concern, (b) target populations, and (c) period of time. Although the assessment activities vary from year to year, these dimensions are useful for long-range planning of assessment activities.

The areas of concern in which the Texas Education Agency has long-range plans for needs assessment are

1. Status of needs assessment and priorities among learner needs in Texas public schools
2. Academic preparation of seniors for college and seniors' evaluation/aspiration of school and work
3. Intellectual discipline — status of pupils in reading and mathematics
4. Career Education
5. Personal and social relations — affective behavior
6. Learner behaviors chosen as other areas of concern.

Each assessment area may undergo four different phases of development:

PHASE I: Planning-Context Feasibility — to determine whether it is possible or practical to conduct needs assessment in a given area of concern.

PHASE II: Pilot Testing — to determine the utility of needs assessment in a given area of concern.

PHASE III: Operational assessment — statewide assessment of the given area of concern.

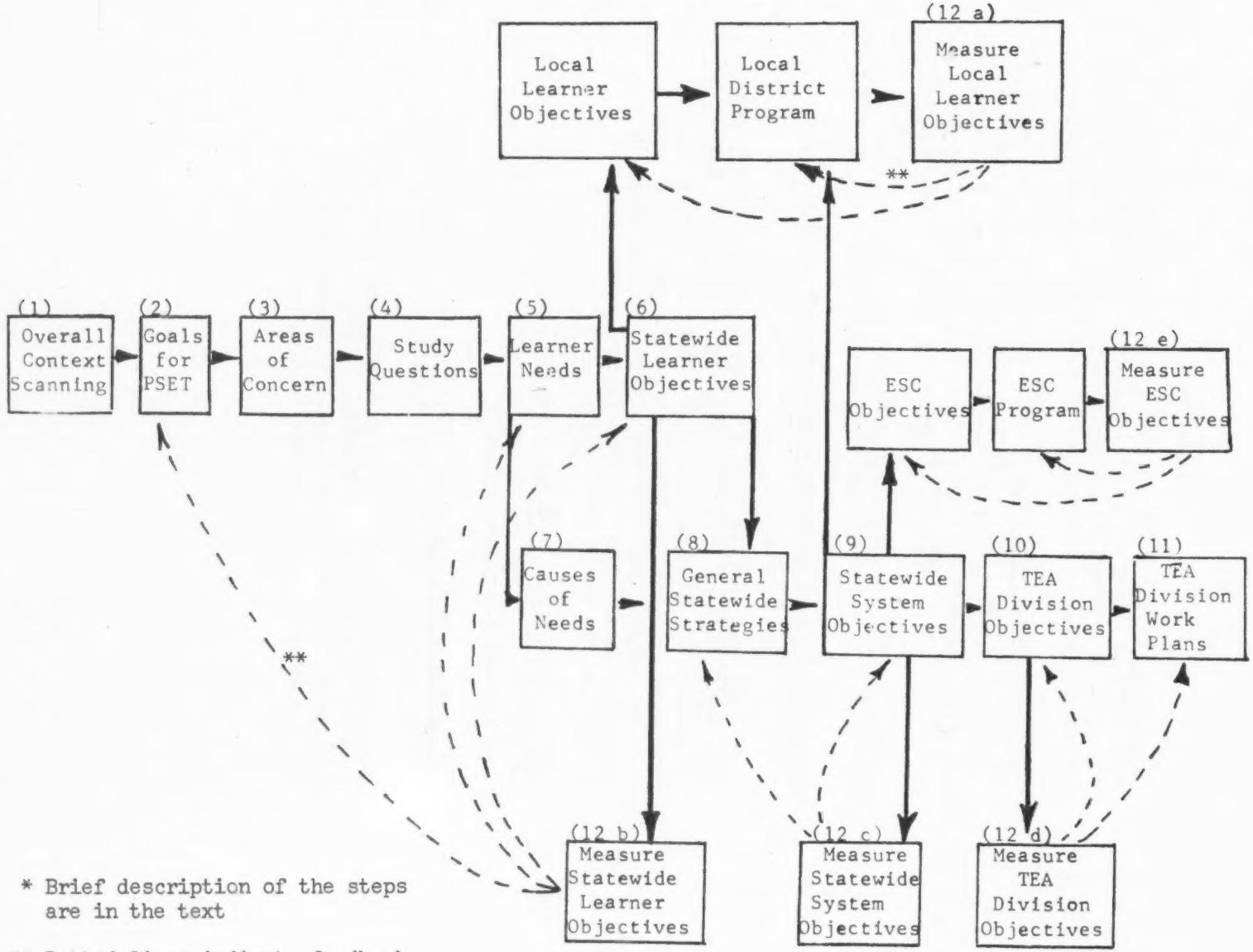
PHASE IV: Statewide Application — decision-making about elementary and secondary education system revisions based on assessment results.

Each year the needs assessment activities will culminate in the identification of critical learner needs and provide (new) baseline data for the reassessment cycle. As additional areas of concern are identified, the activities in the Long - Range Plan for Educational Needs Assessment will be modified. This long-range plan is designed in such a way that educators will receive timely information for comprehensive planning of educational programs based on identified educational needs of learners.

The accompanying chart shows the framework for statewide educational planning. Steps which are involved follow:

Step	Description
1	Overall Context Scanning is the function of investigating the environment in which education must operate in the next few years; includes forecasting and identification of trends and counter-trends.
2	Goals for Public School Education in Texas (GPSET) were adopted in October 1970; annual review is based on evaluative findings and context scanning results.
3	Areas of Concern are selected from the goals for priority attention by management since every area of education cannot be dealt with simultaneously.
4	Study Questions are developed for each area of concern selected in order to guide the collection of relevant information upon which decisions will be made concerning future action.

FRAMEWORK FOR STATEWIDE EDUCATIONAL PLANNING *



* Brief description of the steps are in the text

** Dotted lines indicate feedback

Step	Description
5	Learner Needs are identified as a result of needs assessment studies using the study questions as a guide for information cclection; needs are defined as the discrepancies between current status and desired conditions.
6	Statewide Learner Objectives are established by the Texas Education Agency (TEA) in partnership with school districts, regional education service centers, colleges and universities, and other interested groups; these learner objectives are a portion of the objectives sought by Texas school districts.
7	Causes of Needs are determined to provide a basis for developing strategies to alleviate the needs.
8	General Statewide Strategies are selected to move toward desired conditions.
9	Statewide System Objectives are organizational objectives (not pupil objectives) which when achieved should contribute to the attainment of the statewide learner objectives. The Agency, school districts, education service centers and other educational organizations in Texas could have a set of objectives focused on an identified set of learner needs.
10	TEA Division Objectives are designed to unify the efforts of the organization and to apportion the work to the various administrative units.
11	TEA Division Work Plans are developed to accomplish the Agency's part of the statewide system objectives.
12	Evaluation is concerned with measuring the attainment of learner, system, and TEA division objectives. As indicated, feedback loops serve for renewal of goals, needs assessments, and learner objectives.

APPENDIX B

1971 Texas Assessment of Reading and Mathematics

PUPIL IDENTIFICATION FORM

NAME (PLEASE PRINT) _____ TEACHER'S LAST NAME _____

SCHOOL NAME _____ REGION _____ SCHOOL CODE NUMBER _____

PLEASE CHECK (√) YOUR ANSWERS TO THE FOLLOWING QUESTIONS.

1. Am I in a migrant program in a migrant school? (1) ☐ No (2) ☐ Yes

2. To which group do I belong?

   (1) ☐ Mexican-American (2) ☐ Other Spanish-surnamed American

   (3) ☐ American Indian (4) ☐ Oriental (5) ☐ Negro (6) ☐ Other

3. Have I been in a Special Education Program? (Read *all* the sentences and choose the one that fits you best.)

   (1) ☐ I have *not* been in a Special Education Program at any time.
   (2) ☐ I am *not* in one now, but I have been in a program before.
   (3) ☐ I am in a program now, but I have *not* been in one before.
   (4) ☐ I am in a program now, and I have been in one before.

---

4. Outside of school, how long do I usually watch TV on each school day?

   (1) ☐ None (2) ☐ 1 or 2 hours (3) ☐ 3 or 4 hours (4) ☐ 5 or 6 hours

   (5) ☐ More than 6 hours

5. Am I a good reader? (1) ☐ No (2) ☐ Yes

6. Am I good in arithmetic? (1) ☐ No (2) ☐ Yes

7. Do I read books for fun, even when they are not for school? (1) ☐ No (2) ☐ Yes

8. How many books do we have at home? (Read *all* the sentences and choose the one that fits you best.)

   (1) ☐ We have *no* encyclopedias and *less* than 25 other books.
   (2) ☐ We have *no* encyclopedias, but we have 25 or more other books.
   (3) ☐ We have some encyclopedias and *less* than 25 other books.
   (4) ☐ We have some encyclopedias and 25 or more other books.

9. Do we get a daily newspaper, or magazines in the mail? (Read *all* the sentences and choose the one that fits you best.)

   (1) ☐ We get *no* newspapers and *no* magazines.
   (2) ☐ We get *no* newspapers, but we get magazines.
   (3) ☐ We get *no* magazines, but we get a daily newspaper.
   (4) ☐ We get magazines and a daily newspaper.

CAMPUSES ON WHICH THE PRT WAS ADMINISTERED

Region	Title I	Large City		Small City		Town		Suburb		Rural		Total	
		R*	S**	R	S	R	S	R	S	R	S	R	S
1	Yes	0	0	19	2	38	5	0	0	31	3	88	10
	No	0	0	4	0	7	1	0	0	3	0	14	1
2	Yes	19	2	1	0	21	2	0	0	16	2	57	6
	No	26	3	0	0	10	1	4	0	11	1	51	5
3	Yes	0	0	0	0	17	2	0	0	25	2	42	4
	No	0	0	0	0	12	1	0	0	6	1	18	2
4	Yes	43	4	6	1	21	2	4	0	11	1	85	8
	No	141	14	4	0	23	2	27	3	5	1	200	20
5	Yes	0	0	15	2	8	1	1	0	16	1	40	4
	No	0	0	15	2	13	1	4	0	2	0	34	3
6	Yes	0	0	0	0	28	2	0	0	35	4	63	6
	No	0	0	0	0	6	0	0	0	2	0	8	0
7	Yes	0	0	10	1	54	5	2	0	48	4	114	10
	No	0	0	5	1	14	1	2	0	8	1	29	3
8	Yes	0	0	4	0	18	2	4	1	34	4	60	7
	No	0	0	0	0	11	1	0	0	3	0	14	1
9	Yes	0	0	6	1	15	2	0	0	19	2	40	5
	No	0	0	14	1	5	0	0	0	4	0	23	1
10	Yes	20	1	15	2	36	4	11	2	24	1	105	110
	No	113	11	14	2	21	2	52	5	8	1	208	21
11	Yes	12	1	4	0	21	2	12	1	47	5	96	9
	No	10	1	16	2	29	3	17	2	3	0	75	8

* Region
** Sample

CAMPUSES ON WHICH THE PRT WAS ADMINISTERED, CONTINUED

Region	Title I	Large City		Small City		Town		Suburb		Rural		Total	
		R	S	R	S	R	S	R	S	R	S	R	S
12	Yes	0	0	10	1	34	6	3	1	58	3	105	11
	No	0	0	13	1	18	2	1	0	1	0	33	3
13	Yes	16	2	0	0	34	3	1	0	26	2	77	7
	No	38	4	0	0	6	1	2	0	6	1	52	6
14	Yes	0	0	7	1	26	3	1	0	30	3	64	7
	No	0	0	14	1	7	1	0	0	4	0	25	2
15	Yes	0	0	5	1	14	1	0	0	30	3	49	5
	No	0	0	11	1	8	1	0	0	3	0	22	2
16	Yes	0	0	21	2	33	3	1	0	29	3	84	8
	No	0	0	13	1	6	1	1	0	18	2	38	4
17	Yes	0	0	11	1	20	3	0	0	40	3	71	7
	No	0	0	20	3	8	1	0	0	8	1	42	5
18	Yes	0	0	16	1	11	2	0	0	7	1	34	4
	No	0	0	24	2	25	2	0	0	15	2	64	6
19	Yes	14	1	0	0	2	0	0	0	6	1	22	2
	No	27	3	0	0	0	0	0	0	1	0	28	3
20	Yes	71	7	0	0	19	2	5	1	20	1	115	11
	No	32	2	0	0	12	1	13	2	8	1	65	6
State	Yes	195	18	150	16	470	53	45	6	552	49	1412	142
	No	387	39	173	18	241	23	123	11	119	11	1043	102

PUPILS RESPONDING TO THE PRT

ESC Region	Population of Sixth-Grade Level Pupils, Fall 1971	PRT Respondents	% of Population	ESC Region	Population of Sixth Grade Level Pupils, Fall 1971	PRT Respondents	% of Population
1	9187	1195	13.0	11	18623	1906	10.2
2	9300*	1091	11.7*	12	7732	944	12.2
3	4735	529	11.2	13	9975	755	7.6
4	43362	4261	9.8	14	4245	367	8.6
5	8014	714	8.9	15	3626	386	10.6
6	5530	484	8.8	16	6695	655	9.8
7	10539	1087	10.3	17	7311	793	10.8
8	4141	472	11.4	18	6362	599	9.4
9	3650	450	12.3	19	9168	668	7.3
10	32178	3068	9.5	20	19747	1668	8.4
				State	224120*	22092	9.8*

* In ESC Region 2 the population of pupils at the sixth-grade level is unknown; the estimate of 9300 is based on the 1970 Fall Survey.

APPENDIX D

PROCEDURES USED FOR ESTABLISHING
THE REPRESENTATIVENESS OF OBJECTIVES

Step 1 - Converting percentage values to x-values

For purposes of reporting, a score is given which is the percentage of persons mastering an objective. To establish representativeness this percentage is converted to another number that maintains the same proportionate value as the percentage and can be added and subtracted with mathematical accuracy. The percentage scores (P) are changed to "x-values," and the following formula is used for making this transition.

$$x = 20 \arcsin \sqrt{P} - 15.71$$

Step 2 - Establishing the degree of differences for "effects"

The following factors were used in the study:

FACTORS

A. ESEA-I funding
B. Ethnicity
C. Size of community
D. Gender
E. Perception of self in reading
F. Perception of self in arithmetic
G. Educational emphasis index

After preliminary study of the results the following decisions were made about each variable within a factor as to whether the general trend of scores would be in a positive or negative direction from the total score. The variables are listed with the decision about the direction of score given as a (+), (-), or neutral (o).

VARIABLES

x_1 - Total score (used as a constant)

A
- x_2 = Non-Title I +
- x_3 = Title I -

B
- x_4 = Other +
- x_5 = Black −
- x_6 = Mexican American −

C
- x_7 = Over 500,000 population −
- x_8 = 200,000 - 500,000 population −
- x_9 = Under 200,000 population +
- x_{10} = Suburb +
- x_0 = Rural 0

D
- x_{11} = Female +
- x_{12} = Male −

E
- x_{13} = Good in reading +
- x_{14} = Not good in reading −

F
- x_{15} = Good in arithmetic +
- x_{16} = Not good in arithmetic −

G
- x_{17} = High educational environment +
- x_{18} = Low educational environment −

The following formulas were used to establish the degree of sensitivity for each factor:

[Funding]

$$y_A = (x_1 - x_3) + (x_2 - x_1) = x_1 - x_3 + x_2 - x_1 = x_2 - x_3$$

[Ethnicity]

$$y_B = (x_4 - x_1) + (x_1 - x_5) + (x_1 - x_6) = x_4 - x_1 + x_1 - x_5 + x_1 - x_6$$

[Size of Community]

$$y_C = (x_1 - x_7) + (x_1 - x_8) + (x_9 - x_1) + (x_{10} - x_1)$$
$$= x_1 - x_7 + x_1 - x_8 + x_9 - x_1 + x_{10} - x_1$$
$$= x_9 + x_{10} - x_7 - x_8$$

[Gender]

$$y_D = (x_1 - x_{12}) + (x_{11} - x_1) = x_{11} - x_{12}$$

[Self Perception - Reading]

$$y_E = (x_{13} - x_1) + (x_1 - x_{14}) = x_{13} - x_{14}$$

[Self Perception - Mathematics]

$$y_F = (x_{15} - x_1) + (x_1 - x_{16}) = x_{15} - x_{16}$$

[Educational Emphasis]

$$y_G = (x_{17} - x_1) + (x_1 - x_{18}) = x_{17} - x_{18}$$

To determine the general sensitivity of each objective the individual sensitivities were incorporated into the following formula.

Y = total sensitivity score for objective

$$Y = y_A$$
$$Y = y_A + y_B + y_C + y_D + y_E + y_F + y_G$$

or

$$Y = x_2 - x_3 + x_4 - x_5 - x_6 + x_9 + x_{10} - x_7 - x_8 + x_{11} - x_{12} + x_{13} - x_{14} + x_{15} - x_{16} + x_{17} - x_{18}$$

After the Y scores were obtained, each objective was arranged in order according to this score.

APPENDIX E

LIST OF OBJECTIVES AND COMPARISON OF RATINGS OF PRT OBJECTIVES BY TEACHERS AND EXPERTS IN READING

Explanation: If over 50 percent of the respondents (teachers and reading experts) judged an objective as basic for functional literacy, then the rating for that objective was classified as "basic" or "B." If over 50 percent of the respondents from each group judged an objective to be not basic to functional literacy but desirable for continuing in education, then the rating for that objective was classified as "desirable" or "D." The third column gives the percentages of sixth-grade students that mastered each objective on the Prescriptive Reading Test-Texas.

	Rating by Teachers	Rating by "Experts"	% of students mastering each objective
Phonic Analysis			
*1. The student will demonstrate ability in phonic analysis by selecting or presenting examples of repeated initial consonant sounds. (Alliteration)	B	B	64%
*2. The student will demonstrate ability in phonic analysis by identifying or classifying printed words that are spelled phonetically (vowel sounds: long, short, r-controlled). (Phonic Spelling)	B	B	43%
*3. The student will demonstrate ability in phonic analysis by using knowledge of consonant blends and digraphs to unlock new words and to complete sentences. (Consonant Blends)	B	B	78%
*4. The student will demonstrate ability in phonic analysis by identifying and discriminating all the sounds of the same vowel, as follows: "a," "e," "i," "i" as the "y" sound (companion), "o" and "u." (Vowel Sounds)	B	B	31%
*5. The student will demonstrate ability in phonic analysis by discriminating among the sounds of a given vowel digraph or diphthong, as follows: "ou," "au," "ea," "ee," "ew," "oa," "ai," and "oo." (Vowel Digraphs)	B	B	55%

*Basic Objective

	Rating by Teachers	Rating by "Experts"	% of students mastering each objective
Phonic Analysis continued			
*6. The student will demonstrate ability in phonic analysis by dividing or indicating the number of syllables in words of one or more (up to five) syllables. (Syllables)	B	B	43%
7. The student will demonstrate ability in phonic analysis by correctly placing the accent mark and stating the accent rule which applies to each given word. (Accent)	D	D	41%
Structural Analysis			
*8. The student will add the appropriate affix to a word to complete a sentence. (Add Affixes)	B	B	67%
9. The student will define affixes and endings. (Define Affixes)	B	D	30%
*10. The student will combine words to make compounds. (Compounds)	B	B	76%
11. The student will recognize the use of capitalization for emphasis. (Capitalization)	B	D	62%
12. The student will recognize the use of italics for thoughts and emphasis. (Italics)	D	D	59%
*13. Given a list of sentences and sentence fragments the student will correctly identify all the complete sentences. (Sentence Fragments)	B	B	31%
Translation			
*14. Given a sentence or paragraph with an underlined word, the student will use context to explain the meaning of the word. (Word Meaning/Context)	B	B	81%

	Rating by Teachers	Rating by "Experts"	% of students mastering each objective
Translation continued			
15. Given a sentence with an underlined word and a list of words, (or given two lists of words), the student will select from the list the word that could be used as a synonym for the underlined word (or for a word in the first list). (Synonyms)	B	D	56%
*16. Given two sentences, the student will indicate whether they say the same thing or something different. (Words and Sentences/Relationship)	B	B	50%
Literal Comprehension			
*17. The student will demonstrate ability to perceive the sequence of events and ideas in reading matter by indicating between which events other events occurred. (Sequence)	B	B	62%
*18. The student will demonstrate ability to recall facts, details, and descriptions from stories by identifying true statements. (True Statements)	B	B	36%
*19. The student will demonstrate ability to recall facts, details, and descriptions from stories by underlining words or sentences containing information related to a story. (Related Information)	B	B	40%
Interpretive Comprehension			
20. The student will demonstrate recognition of idiomatic expressions by matching them with phrases which express the same meaning. (Idioms)	D	D	61% 61%
21. The student will explain the meanings of given figures of speech, including metaphors, similes, hyperbole, onomatopoeia, exaggeration. (Figures of Speech)	D	D	38%

	Rating by Teacher	Rating by "Experts"	% of students mastering each objective
Interpretive Comprehension continued			
22. The student will demonstrate recognition of similes by locating them in a given passage. (Similes)	D	D	44%
23. The student will demonstrate recognition of metaphors by locating them in a given passage. (Metaphors)	D	D	39%
*24. The student will demonstrate ability to draw logical coclusions by choosing the best of given conclusions. (Draw Conclusions)	B	B	43%
*25. The student will demonstrate recognition of inferences and conclusions by identifying clues leading to them. (Reasons and Conclusions)	B	B	67%
*26. The student will demonstrate ability to anticipate or predict probable future actions or outcomes from story material by answering questions or completing sentences. (Anticipate Actions)	B	B	60%
*27. The student will demonstrate recognition of main ideas by choosing or matching a title to reading material. (Best Title)	B	B	36%
*28. The student will demonstrate recognition of main ideas of a passage or story by choosing a summary or statement that best represents it. (Best Summary)	B	B	32%
*29. The student will demonstrate recognition of the main idea by choosing or identifying the key sentence to which other sentences of a given paragraph refer. (Key Sentence)	B	B	7%

	Rating by Teachers	Rating by "Experts"	% of students mastering each objective
Critical Comprehension			
30. The student will demonstrate ability to compare stories by noting the similarities in two given stories. (Compare/Contrast)	B	D	57%
*31. The student will demonstrate ability to distinguish between real and make-believe by identifying elements in a story that could be true. (Read/Make-believe)	B	B	27%
*32. The student will demonstrate ability at critical comprehension by distinguishing between facts and opionions in given written material. (Facts/ Opinions)	B	B	51%
33. The student will demonstrate ability to identify an author's attempts to sway the reader to a particular point of view. (Propaganda)	D	B	42%
34. The student will demonstrate recognition of the author's purpose by identifying the purpose of given selections (e.g., to entertain or to inform). (Author Intent)	D	D	46%
35. The student will demonstrate ability in critical comprehension by indicating which of a given author's experiences qualified him to write a given article. (Author Qualifications)	D	D	69%
Study Skills			
36. The student will demonstrate ability to use the card catalogue by locating a specific card and answering questions about the information on the card. (Card Catalogue)	D	B	73%

	Rating by Teachers	Rating by "Experts"	% of students mastering each objective
Study Skills continued			
*37. The student will indicate in which of several sources of information (e.g., almanac, dictionary or encyclopedia) he should look to find the answers to given questions. (Sources of Information)	B	B	72%
38. The student will identify the source of information when given a sample page and indicate if it would be helpful in locating given information. (Usefulness of Information)	D	D	81%
39. The student will select from given words the correct word to complete a given analogy. (Analogy)	B	D	77%
*40. The student will use a table of contents to determine if specified information is contained in a book. (Table of Contents)	B	B	-1-
*41. Given an index, the student will locate the page on which specified information can be found. (Index)	B	B	74%
42. The student will demonstrate his ability to read footnotes by locating them on a given page and reading the corresponding information at the bottom of the page. (Footnotes)	D	D	60%
43. The student will answer given questions about a given page in the dictionary (e.g., specify the number of one-syllable words). (Dictionary)	B	D	15%
44. The student will correctly use diacritical marks to indicate long, short, and silent vowels. (Diacritical Marks)	B	D	50%
45. The student will select from a given list the guide words appropriate for a given set of three words. (Guide Words)	B	D	13%

-1- Test items did not measure this objective.

	Rating by Teachers	Rating by "Experts"	% of students mastering each objective
Study Skills continued			
*46. The student can indicate in which volume of an encyclopedia given specific topics can be located. (Encyclopedia)	B	B	53%
*47. Given sentences, the student can indicate the main topic or key word that tells where to locate information. (Key Word)	B	B	29%
*48. The student will demonstrate his map-reading abilities by locating given places and routes on a given map. (Map-Reading)	B	B	70%
*49. Given a map, the student will indicate the kind of information that would be provided by it. (Map Choice)	B	B	56%

APPENDIX F

READING RESULTS BY POPULATION GROUPS

Objective Number	All Students	Emphasis	Low Educational	Emphasis	High Educational	No	Good In Arithmetic -	Yes	Good In Arithmetic -	No	Good In Reading -	Yes	Good In Reading -	Rural	Suburb	City under 200,000	City 200,000 - 500,000	City over 500,000	Other	Mexican American	Black	Non-Title I	Title I	Female	Male
Phonic Analysis	44%		50%		79%		56%		69%		51%		71%		63%		69%	62%	53%	76%	57%	66%	62%	68%	61%
*1 Alliteration	43		32		54		34		48		33		49		44		46	38	36	51	34	45	41	46	46
*2 Phonic Spelling	78		60		92		72		81		61		87		78			72	70	89	63	81	75	82	74
*3 Consonant Blends	31		18		46		22		35		16		38		29			28	23	41	18	33	28	33	28
*4 Vowel Sounds	55		39		69		46		60		38		63		53			49	48	66	39	58	51	58	52
*5 Vowel Digraphs	43		33		53		35		47		31		49		39			40	40	48	36	44	41	44	39
*6 Syllables	41		34		52		35		45		32		46		40			44	37	47	34	43	40	43	42
7 Accent																									
Structural Analysis	67		50		84		58		72		47		78		66			59	54	79	53	70	64	71	64
*8 Add Affixes	30		17		45		20		34		16		36		26			25	23	39	15	33	26	33	30
9 Define Affixes	76		61		88		69		80		63		83		77			69	66	84	66	74	60	77	71
*10 Compounds	62		45		77		54		66		45		71		60			66	54	73	47	77	59	74	70
11 Capitalization	59		38		78		48		64		40		68		57			64	49	72	43	72	51	72	64
12 Italics																									
*13 Sentence Fragments	31		18		46		22		35		16		38		31			34	27	40	19	33	28	34	27
Translation	81		68		92		74		88		69		88		83			84	75	89	73	84	78	84	78
*14 Word Meaning/ Context	56		37		76		46		68		37		66		53			61	52	70	38	60	53	60	53
15 Synonyms																									
*16 Words and Sentences/ Relationship	50		32		71		40		55		31		60		50			55	40	65	29	55	47	63	53
Literal Comprehension	62		47		77		53		66		46		69		61			66	54	72	49	64	59	64	66
*17 Sequence	36		19		54		25		41		20		44		35			39	28	47	21	39	32	39	34
*18 True Statements	40		24		57		30		45		23		48		39			43	34	50	26	42	37	42	45
*19 Related Information																									
Interpretive Comprehension	61		50		73		55		65		48		68		60			65	56	69	54	63	57	63	59
20 Idioms	43		26		52		30		42		25		45		36			40	32	46	26	41	36	40	41
21 Figures of Speech	38		33		55		36		48		34		49		41			46	39	50	29	46	40	47	46
22 Similes	44		30		48		32		42		28		44		39			41	36	45	29	40	37	40	40
23 Metaphors	39																								
*24 Draw Conclusions	43		26		61		33		49		25		53		42			47	37	55	28	46	40	47	47

Objective Number		Male	Female	Title I	Non-Title I	Black	Mexican American	Other	City over 500,000	City 200,000 - 500,000	City under 200,000	Suburb	Rural	Good In Reading - Yes	Good In Reading - No	Good In Arithmetic - Yes	Good In Arithmetic - No	High Educational Emphasis	Low Educational Emphasis	All Students
*25	Reasons and Conclusions	61	73	65 68	49	59	74	62	63	70		72 66	74	52	71	60	80	53		67
*26	Anticipate Actions	54	65	57 62	39	49	69	53	55	63		68 59	68	44	64	52	75	45		60
*27	Best Title	32	41	34 38	18	24	45	30	29	40		41 35	45	20	41	27	53	22		36
*28	Best Summary	29	35	30 34	16	20	41	27	26	35		39 30	40	18	37	23	48	19		32
*29	Key Sentence	6	8	7 7	4	5	9	6	6	8		8 7	8	5	8	5	10	4		7
	Critical Comprehension																			
30	Compare/Contrast	53	61	55 59	39	50	65	52	54	60		63; 57	64	44	61	50	70	44		57
*31	Real/Make-believe	23	31	25 30	10	15	37	22	22	30		35 25	35	13	32	19	43	13		27
*32	Facts/Opinions	46	55	48 53	29	36	62	43	45	55		58 50	59	35	56	41	68	35		51
33	Propaganda	40	45	40 45	29	31	50	37	40	45		48 41	49	31	46	35	54	32		42
34	Author Intent	40	52	43 48	25	34	56	39	41	50		54 44	55	28	51	36	63	29		46
35	Author Qualifications	65	74	68 70	50	62	77	63	65	73		75 70	77	55	73	62	83	57		69
	Study Skills																			
36	Card Catalogue	67	79	71 75	54	66	81	66	66	77		80 72	80	60	77	65	85	61		73
*37	Sources of Information	67	76	69 74	48	62	81	64	64	76		81 72	80	56	76	64	85	56		72
38	Usefulness of Information	75	87	80 82	63	76	88	75	74	84		87 82	87	69	84	75	92	68		81
39	Analogy	74	81	75 78	59	69	85	71	68	81		84 79	84	65	81	70	88	64		77
*40	Table of Contents	67	74	69 72	47	60	81	61	64	75		79 71	78	55	74	62	84	54		70
*41	Index	69	80	73 75	55	67	82	68	66	79		82 75	82	60	79	66	87	61		74
42	Footnotes	54	65	57 61	41	49	68	53	54	63		67 61	66	46	64	51	72	47		60
43	Dictionary	13	17	15 15	8	10	19	12	13	16		17 15	18	9	18	10	21	9		15
44	Diacritical Marks	46	53	48 51	28	41	59	40	44	54		55 52	56	36	54	40	64	38		50
45	Guide Words	12	15	12 15	4	6	19	9	10	15		19 12	17	7	17	6	23	7		13
*46	Encyclopedia	46	60	50 56	30	40	64	44	47	58		65 51	61	39	60	40	71	36		53
*47	Key Word	26	32	28 29	16	21	35	22	22	32		33 30	32	19	32	24	39	19		29
*48	Map-Reading	69	71	68 72	46	61	80	62	64	74		80 70	76	58	75	60	83	57		70
*49	Map-Choice	56	55	54 57	32	44	66	46	48	60		63 58	62	43	61	46	71	41		56

Appendex C deleted due to copyright restrictions.

APPENDIX H

SUMMARY OF REPLIES TO EVALUATION INSTRUMENTS

SURVEY FORM FOR SCHOOL CONTACT PERSONS

This instrument was provided to the assessment contact person in education service centers for use in pre-test workshops for school personnel. These results were obtained from 192 participants in the nine ESC regions that have reported.

- 92% of the workshop participants indicated that they had no previous exposure to criterion-referenced testing.
- 87% considered the idea of a criterion-referenced assessment very appealing and they thought the results would be useful in planning classroom instruction.
- 85% responded that they believed test results based on measurable objectives would be useful for tailoring programs to the continuous progress of pupils in the participants' schools.
- 95% thought criterion-reference measures would give more information to teachers about students than norm-referenced tests.
- 68% of the participants were confident of their ability to explain criterion-referenced concepts to another person or to implement the test results.

EVALUATION FORM - POST-TEST WORKSHOP

An evaluation form was distributed to school personnel who attended post-test workshops in each of the 20 ESC regions during January, 1972. The participants were asked about how well they thought the objectives for the workshops were met. The form contained a five-point scale with one being the lowest. The mean scores of the participants' ratings are given in parentheses after each objective. (5 = highest possible score)

- Information about the rationale for the assessment project (4.2)
- Awareness of the implications of criterion-referenced testing, the rationale for comparing classroom objectives, and the objectives measured by the test instruments (4.1)
- Awareness of the potential of criterion-referenced test results for promoting the continuous progress of pupils (4.3)
- Gaining skills in using the diagnostic and prescriptive information from criterion-referenced tests for identifying pupil learning needs (4.0)

- Understanding of how to use these results to plan instruction for individuals and groups of pupils (4.0)

SURVEY OF TEACHER OPINION

In February 1972 a survey questionnaire was distributed to a sample of sixth-grade teachers from schools that participated in the assessment. The survey was distributed at this time to secure teacher reactions about the total assessment project after most of them had the opportunity to study and use the results from the criterion-referenced tests.

Of the 254 respondents to the survey, 24% were replying after receiving results from the Prescriptive Mathematics Inventory (PMI), 29% in reference to the results from the Prescriptive Reading Test (PRT), and 47% after receiving results from both tests.

- When asked if the results were particularly helpful in classroom instructional planning - 43% replied no, 57% replied yes. Of the "no" replies most responded: the results arrived too late (33% gave this as one reason for responding "no"), the results were not adaptable to their classroom situations, and the test(s) were not appropriate for their classes, so the results were not meaningful. Of the teachers marking "yes", most gave: "identifying pupil weaknesses in skills, identifying areas of the curriculum needing study, and identifying special pupil abilities" as their reasons for replying in this manner. Another question on the survey asked the teachers to rate the usefulness of criterion-referenced test results for classroom instructional planning and the mean of the rating was 4.4 on a six-point continuum (six was the highest possible rating).

- When asked if the test information was adequate for the teacher's purpose - 23% responded no, 72% responded yes. Of the "no" replies, comments indicated that the primary reasons for this response were the late arrival of results which caused them to be less useful, the tests were too difficult for some groups of students, and the test information did not fit the teachers' classroom situations.

- When asked if the benefits derived from the assessment were sufficient to justify the school time devoted to participation - 23% replied "no", 52% "yes", and 25% "did not know."

- When teachers were asked to respond to hypothetical situations involving diagnosis of pupils' learning skills and were asked to rank a list of alternatives for achieving the diagnosis, they ranked standardized criterion-referenced testing as their first choice for determining individual differences to plan instruction early in the school year and for evaluating the degree to which the pupils had attained the larger outcomes of the course near the end of the school year. The teachers tanked teacher-made testing as the first choice for determining the degree to which students had mastered learning tasks at midyear and teacher-made criterion-

referenced testing as a first choice as a means of obtaining evaluative data on pupil mastery of overall course outcomes for grading and reporting purposes.

- When teachers were asked to rate the extent to which the various forms in which test results were reported to schools assisted teachers, they responded: The Diagnostic Matrix for Individual Pupils and Individual Study Guides provide the most assistance; the Master Reference Guide was of least assistance.

- When asked to compare the results of criterion-referenced testing to the results of norm-referenced testing for instructional planning, the teachers gave criterion-referenced testing a mean of 3.17 on a four-point continuum.

- When asked about revisions in the test instruments, the major change recommended by teachers for both tests was simplification of the vocabulary used in test questions.

- When asked about the best procedures for administering tests of this type in the future, about 75% of the teachers responded that they would administer the test in the regular classroom and about the same percentage indicated they would prefer to administer them in the morning.

- When asked about the helpfulness of post-test workshops 83% reported that the workshops had been of help to them.